

FCC SAR Test Report

APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : XT2405-1, XT2405V
FCC ID : IHDT56AN6
STANDARD : FCC 47 CFR Part 2 (2.1093)

We, Sporton International Inc. (Shenzhen), would like to declare that the tested sample has been evaluated in accordance with the test procedures given in 47 CFR Part 2.1093 and FCC KDB and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Shenzhen), the test report shall not be reproduced except in full.



Approved by: Si Zhang

Sporton International Inc. (Shenzhen)
1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055
People's Republic of China



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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA411619	Rev. 01	Initial issue of report.	Mar. 26, 2024
FA411619	Rev. 02	1. Added the Plimit of n41 at ant10 in the section 5. 2. Updated Conducted RF Output Power of WLAN 2.4GHz at appendix E.	Mar. 27, 2024



1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Motorola Mobility LLC, Mobile Cellular Phone, XT2405-1, XT2405V**, are as follows.

Highest 1g SAR Summary						
Equipment Class	Frequency Band		Head (Separation 0mm)	Hotspot (Separation 5mm)	Body-worn (Separation 5mm)	Highest Simultaneous Transmission 1g SAR (W/kg)
			1g SAR (W/kg)			
Licensed	GSM	GSM850	0.23	0.98	0.98	1.59
		GSM1900	<0.10	1.19	1.28	
	WCDMA	WCDMA II	0.60	1.14	1.17	
		WCDMA IV	0.52	1.05	1.14	
		WCDMA V	0.57	1.20	1.20	
	LTE	LTE Band 7	0.57	1.13	1.27	
		LTE Band 12/17	0.55	1.06	1.06	
		LTE Band 13	0.55	1.16	1.16	
		LTE Band 14	0.59	1.06	1.06	
		LTE Band 25/2	0.55	1.27	1.22	
		LTE Band 30	0.56	1.28	1.22	
		LTE Band 26/5	0.51	1.22	1.22	
		LTE Band 66/4	0.53	1.11	1.23	
		LTE Band 71	0.57	0.99	0.99	
		LTE Band 41/38	0.61	1.17	1.20	
		LTE Band 48	0.88	0.62	0.88	
	5G NR	FR1 n7	0.57	1.17	1.22	
		FR1 n12	0.54	0.75	0.75	
		FR1 n14	0.59	0.86	0.86	
		FR1 n25/2	0.57	1.11	1.18	
		FR1 n26/5	0.52	1.00	1.00	
		FR1 n30	0.59	1.13	1.06	
		FR1 n66	0.58	1.14	1.11	
		FR1 n70	0.58	1.17	1.18	
		FR1 n71	0.51	0.57	0.72	
		FR1 n41/38	0.61	1.10	1.21	
		FR1 n48	0.80	0.58	0.85	
		FR1 n77/n78	0.78	0.61	0.86	
DTS	WLAN	2.4GHz WLAN	1.19	0.85	1.19	1.59
NII		5GHz WLAN	1.15	0.68	1.19	1.59
DSS	Bluetooth	2.4GHz Bluetooth	0.30	0.30	0.30	1.59

Highest 10g SAR Summary				
Equipment Class	Frequency Band		Product Specific 10g SAR (W/kg) (Separation 0mm)	Highest Simultaneous Transmission 10g SAR (W/kg)
Licensed	GSM	GSM1900	2.69	3.94
	WCDMA	WCDMA II	2.73	
		WCDMA IV	2.73	
	LTE	LTE Band 7	3.17	
		LTE Band 26/5	1.57	

		LTE Band 25/2	2.72	
		LTE Band 30	3.18	
		LTE Band 66/4	2.72	
		LTE Band 41/38	3.05	
		LTE Band 48	1.99	
	5G NR	FR1 n7	2.81	
		FR1 n25/2	2.43	
		FR1 n30	2.71	
		FR1 n66	2.69	
		FR1 n70	2.66	
		FR1 n41/38	3.17	
		FR1 n48	1.85	
		FR1 n77/78	1.97	
DTS	WLAN	2.4GHz WLAN	2.03	3.94
NII		5GHz WLAN	2.95	3.94
Date of Testing:			2024/1/24 ~ 2024/3/15	

Remark:

1. This device supports LTE B2 / B4 / B5 / B17 / B38 and B25 / B66 / B26 / B12 / B41. Since the supported frequency span for LTE B2 / B4 / B5 / B17 / B38 falls completely within the supports frequency span for LTE B25 / B66 / B26 / B12 / B41, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B25 / B66 / B26 / B12 / B41.
2. This device supports 5GNR n2/n5/n38 and n25/n26/n41. Since the supported frequency span for 5GNR n2/n5/n38 falls completely within the supports frequency span for n25/n26/n41/n77, both 5GNR bands have the same target power, and both 5GNR bands share the same transmission path; therefore, SAR was only assessed for n25/n26/n41.

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg for Partial-Body 1g SAR, 4.0 W/kg for Product Specific 10g SAR) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications.

2. Administration Data

Sporton International Inc. (Shenzhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Testing Laboratory			
Test Firm	Sporton International Inc. (Shenzhen)		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	SAR03-SZ	CN1256	421272

Applicant	
Company Name	Motorola Mobility LLC
Address	222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

Manufacturer	
Company Name	Motorola Mobility LLC
Address	222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

3. Guidance Applied

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards:

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 616217 D04 SAR for laptop and tablets v01r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01



4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2405-1, XT2405V
FCC ID	IHDT56AN6
IMEI Code	IMEI1: 353533390039835 IMEI2: 353533390039843
Wireless Technology and Frequency Range	GSM850: 824 MHz ~ 849 MHz GSM1900: 1850 MHz ~ 1910 MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz 5G NR n2: 1850 MHz ~ 1910 MHz 5G NR n5: 824 MHz ~ 849 MHz 5G NR n7: 2500 MHz ~ 2570 MHz 5G NR n12: 699 MHz ~ 716 MHz 5G NR n14: 788 MHz ~ 798 MHz 5G NR n25: 1850 MHz ~ 1915 MHz 5G NR n26: 814 MHz ~ 849 MHz 5G NR n30: 2305 MHz ~ 2315 MHz 5G NR n38: 2570 MHz ~ 2620 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n48: 3550 MHz ~ 3700 MHz 5G NR n66: 1710 MHz ~ 1780 MHz 5G NR n70: 1695 MHz ~ 1710 MHz 5G NR n71: 663 MHz ~ 698 MHz 5G NR n77: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3980 MHz 5G NR n78: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3800 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5700 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz WLAN 6GHz U-NII-5: 5925 MHz ~ 6425 MHz WLAN 6GHz U-NII-6: 6425 MHz ~ 6525 MHz WLAN 6GHz U-NII-7: 6525 MHz ~ 6875 MHz WLAN 6GHz U-NII-8: 6875 MHz ~ 7125 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC: 13.56 MHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps

	HSDPA HSUPA DC-HSDPA HSPA+(16QAM uplink is supported) LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR : CP-OFDM / DFT-s-OFDM, PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 2.4GHz 802.11ax HE20/HE40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac/ax VHT20/VHT40/VHT80/VHT160/HE20/HE40/HE80/HE160 WLAN 6GHz 802.11a/ax HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE NFC: ASK
HW Version	DVT2
SW Version	U2UAN34.50
GSM / (E)GPRS Transfer mode	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
EUT Stage	Identical Prototype

Remark:

1. This device supports VoIP in GPRS, EGPRS, WCDMA, LTE and 5GNR (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
2. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
3. This device 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WiFi Direct (GC/GO), and 5.3GHz / 5.5GHz supports WiFi Direct (GC only).
4. This device does not support DTM operation and supports GPRS/EGPRS mode up to multi-slot class 12.
5. The 2.4GHz/5GHz/6GHz WLAN can transmit in MIMO antenna mode only and it has no SISO antenna mode.
6. For dual SIM card mobile has single SIM slots + eSIM (electronic SIM) and supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (single active).
7. The device implements the power management and proximity sensor /receiver detection/hotspot mode for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) and the Qualcomm smart transmit will manage to ensure the power level not exceeding the associated power table. Details about the power management decision and sensor detection are provided in the operational description. And the device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E.
8. For WLAN/BT when transmit simultaneously with each other, or when transmit simultaneously together with WWAN/BT, power reduction will be activated to head, body-worn exposure condition. For WLAN/BT when transmit simultaneous with WWAN and Proximity sensors trigger, power reduction will be activated to body-worn and extremity exposure conditions.
9. This device implements antenna tuning techniques for several WWAN (cellular) operating modes and frequencies for the purpose of improving antenna efficiency over a broad range of frequencies. Specifically, these techniques are employed in the WCDMA, LTE and 5GNR modes. In this report SAR was measured according to the normally required SAR configurations with the tuner active and worst tune state (auto tune) was used for SAR testing. The detail descriptions of the antenna tuner and supplemental data for additional information can be referred to section 18 and appendix F.
10. LTE Band 41 and 5GNR n41/77/n78 supports HPUE, HPUE power and SAR testing performed separately.
11. LTE Band 41 HPUE with higher power, For HPUE power is higher than power class 3 but with lower duty cycle, the maximum average power for class 2 and class 3 is almost the same, so we chose power class 3 full SAR testing and power class 2 verified the worst case of power class 3 SAR.
12. For 5GNR n41/n77/n78 HPUE with higher power, so we chose power class 2 full SAR testing and power class 2 SAR can represent power class 3 SAR.
13. For 5G NR bands test, using FTM (Factory Test Mode) with default 100% duty cycle transmission to perform SAR testing.
14. 5G NR n41/n77/n78/n48 supports UL MIMO.
15. The device supports HPUE (power class 2) under SISO mode and HPUE (power class 1.5) under UL MIMO mode for 5G NR n41/n77.
16. The two model names are only for different market purpose, and all the others are the same.
17. This device has NFC function and the NFC SAR report will be separately submitted.
18. SAR and Power density test report for WLAN6GHz U-NII-5/6/7/8 will be separately submitted. About co-located SAR with WWAN/Bluetooth always chose higher SAR of WLAN5G U-NII-1/2A/2C/3 and WLAN6GHz U-NII-5/6/7/8.
19. This device supports 5GNR FR1 bands as following table, including NSA mode and SA mode. NSA and SA mode performed SAR separately.

<5G NR>

Mode	Band	Duplex	SCS(KHz)	Bandwidths(BW)
NSA	n2	FDD	15	5, 10, 15, 20
	n5	FDD	15	5, 10, 15, 20
	n7	FDD	15	5, 10, 15, 20, 25, 30, 40
	n12	FDD	15	5, 10, 15
	n25	FDD	15	5, 10, 15, 20, 25, 30, 35, 40
	n66	FDD	15	5, 10, 15, 20, 25, 30, 35, 40
	n71	FDD	15	5, 10, 15, 20, 25, 30
	n41	TDD	30	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100
	n77	TDD	30	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	30	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100
SA	n2	FDD	15	5, 10, 15, 20
	n5	FDD	15	5, 10, 15, 20
	n7	FDD	15	5, 10, 15, 20, 25, 30, 40
	n12	FDD	15	5, 10, 15
	n14	FDD	15	5, 10
	n25	FDD	15	5, 10, 15, 20, 25, 30, 35, 40
	n26	FDD	15	5, 10, 15, 20
	n30	FDD	15	5, 10
	n66	FDD	15	5, 10, 15, 20, 25, 30, 35, 40
	n70	FDD	15	5, 10, 15
	n71	FDD	15	5, 10, 15, 20, 25, 30
	n38	TDD	30	10, 15, 20, 30, 40
	n41	TDD	30	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100
	n48	TDD	30	10, 20, 30, 40
	n77	TDD	30	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	30	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100

4.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05																																																																							
FCC ID	IHDT56AN6																																																																						
Equipment Name	Mobile Cellular Phone																																																																						
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz																																																																						
Channel Bandwidth	LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 14: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 25:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 30: 5MHz, 10MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 48: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz																																																																						
uplink modulations used	QPSK / 16QAM / 64QAM / 256QAM																																																																						
LTE Voice / Data requirements	Voice and Data																																																																						
LTE Release Version	R16, Cat18																																																																						
CA Support	Supported, Uplink and Downlink																																																																						
LTE MPR permanently built-in by design	<table><tr><th colspan="8">Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3</th></tr><tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (N_{RB})</th><th rowspan="2">MPR (dB)</th></tr><tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr><tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr><tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr><tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr><tr><td>64 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 2</td></tr><tr><td>64 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 3</td></tr><tr><td>256 QAM</td><td colspan="6">≥ 1</td><td>≤ 5</td></tr></table>	Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3								Modulation	Channel bandwidth / Transmission bandwidth (N_{RB})						MPR (dB)	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1	16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1	16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2	64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2	64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3	256 QAM	≥ 1						≤ 5
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256 QAM	≥ 1						≤ 5																																																																
LTE A-MPR	In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)																																																																						
Spectrum plots for RB configuration	A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.																																																																						
Power reduction applied to satisfy SAR compliance	Yes, when operating in Proximity sensors/receiver/hotspot detect mechanism, head/body-worn /hotspot/extremity will trigger reduced power for some bands applied to satisfy SAR compliance, the detail please referred to section 14.																																																																						
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power verification please referred to section 14.																																																																						
LTE Carrier Aggregation Additional Information	1. This device supports LTE Carrier Aggregation (CA) in the uplink for intra-band and inter-band with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance. 2. This device supports maximum of 4 carriers in the downlink and 2 carriers in the uplink.																																																																						



Transmission (H, M, L) channel numbers and frequencies in each LTE band												
LTE Band 2												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900
LTE Band 4												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745
LTE Band 5												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20407	824.7	20415	825.5	20425	826.5	20450	829				
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5		
H	20643	848.3	20635	847.5	20625	846.5	20600	844				
LTE Band 7												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510				
M	21100	2535	21100	2535	21100	2535	21100	2535				
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560				
LTE Band 12												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	23017	699.7	23025	700.5	23035	701.5	23060	704				
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5				
H	23173	715.3	23165	714.5	23155	713.5	23130	711				
LTE Band 13												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)					
L	23205		779.5		23230		782					
M	23230		782									
H	23255		784.5									
LTE Band 14												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Channel #		Channel #		Freq.(MHz)					
L	23305		790.5		23330		793					
M	23330		793									
H	23355		795.5									
LTE Band 17												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Freq.(MHz)		Channel #		Freq. (MHz)					
L	23755		706.5		23780		709					
M	23790		710		23790		710					
H	23825		713.5		23800		711					
LTE Band 25												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26047	1850.7	26055	1851.5	26065	1852.5	26090	1855	26115	1857.5	26140	1860
M	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880
H	26683	1914.3	26675	1913.5	26665	1912.5	26640	1910	26615	1907.5	26590	1905
LTE Band 26												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz			
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5		
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5		
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5		

LTE Band 30												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)					
L	27685		2307.5		27710		2310					
M	27710		2310									
H	27735		2312.5									
LTE Band 38												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580				
M	38000	2595	38000	2595	38000	2595	38000	2595				
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610				
LTE Band 41												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506				
LM	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5				
M	40620	2593	40620	2593	40620	2593	40620	2593				
HM	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5				
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680				
LTE Band 66												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770
LTE Band 71												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	133147	665.5	133172	668	133197	670.5	133222	673				
M	133247	675.5	133272	678	133297	680.5	133322	683				
H	133447	695.5	133422	693	133397	690.5	133372	688				
LTE Band 48												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	55265	3552.5	55290	3555	55315	3557.5	55340	3560				
LM	55810	3607	55815	3607.5	55820	3608	55830	3609				
MH	56170	3643	56165	3642.5	56160	3642	56150	3641				
H	56715	3697.5	56690	3695	56665	3692.5	56640	3690				

<For LTE Overlap Bands Description>

1) LTE Bands BW

Band	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz
LTE Band 2	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 25	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 4	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 66	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 5	Yes	Yes	Yes	Yes		
LTE Band 26	Yes	Yes	Yes	Yes	Yes	
LTE Band 12	Yes	Yes	Yes	Yes		
LTE Band 17			Yes	Yes		
LTE Band 38			Yes	Yes	Yes	Yes
LTE Band 41			Yes	Yes	Yes	Yes

**2) LTE Bands tune up**

Band	Antenna	For Head Default	For Body Default	Head DSI 2	Body Worn DSI 3	Sensor off DSI 4	Extremity DSI 6	Hotspot DSI 7
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
LTE Band 2	Ant 0	24.0	24.0	24.0	17.4	24.0	20.9	16.4
LTE Band 25		24.0	24.0	24.0	17.4	24.0	20.9	16.4
LTE Band 2	Ant 1	24.0	24.0	17.0	19.0	24.0	22.5	17.0
LTE Band 25		24.0	24.0	17.0	19.0	24.0	22.5	17.0
LTE Band 4	Ant 0	24.0	24.0	24.0	18.4	24.0	21.9	16.9
LTE Band 66		24.0	24.0	24.0	18.4	24.0	21.9	16.9
LTE Band 4	Ant 1	24.0	24.0	18.1	18.0	24.0	22.6	16.5
LTE Band 66		24.0	24.0	18.1	18.0	24.0	22.6	16.5
LTE Band 5	Ant 0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 26		24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 5	Ant 1	24.0	24.0	20.9	24.0	24.0	24.0	22.4
LTE Band 26		24.0	24.0	20.9	24.0	24.0	24.0	22.4
LTE Band 12	Ant 0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 17		24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 12	Ant 1	24.0	24.0	21.2	24.0	24.0	24.0	23.5
LTE Band 17		24.0	24.0	21.2	24.0	24.0	24.0	23.5
LTE Band 38 PC3	Ant 9	24.0	24.0	24.0	20.5	24.0	24.0	18.0
LTE Band 41 PC3		24.0	24.0	24.0	20.5	24.0	24.0	18.0
LTE Band 38 PC3	Ant 1	24.0	24.0	17.1	19.1	24.0	21.1	17.6
LTE Band 41 PC3		24.0	24.0	17.1	19.1	24.0	21.1	17.6

4.3 General 5G NR SAR Test and Reporting Considerations

5G NR Information														
Operating Frequency Range of each 5G NR transmission band	5G NR n2: 1850 MHz ~ 1910 MHz													
	5G NR n5: 824 MHz ~ 849 MHz													
	5G NR n7: 2500 MHz ~ 2570 MHz													
	5G NR n12: 699 MHz ~ 716 MHz													
	5G NR n14: 788 MHz ~ 798 MHz													
	5G NR n25: 1850 MHz ~ 1915 MHz													
	5G NR n26: 814 MHz ~ 849 MHz													
	5G NR n30: 2305 MHz ~ 2315 MHz													
	5G NR n66: 1710 MHz ~ 1780 MHz													
	5G NR n70: 1695 MHz ~ 1710 MHz													
	5G NR n71: 663 MHz ~ 698 MHz													
	5G NR n38: 2570 MHz ~ 2620 MHz													
	5G NR n41: 2496 MHz ~ 2690 MHz													
	5G NR n48: 3550 MHz ~ 3700 MHz													
5G NR n77: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3980 MHz														
5G NR n78: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3800 MHz														
Channel Bandwidth	The detail please refers to section 4.1 5GNR FR1 bands table.													
SCS	FDD: SCS15KHz, TDD: SCS30KHz													
uplink modulations used	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM													
A-MPR (Additional MPR) disabled for SAR Testing?	Yes													
LTE Anchor Bands for n2	LTE B4/5/7/12/13/14/30/48/66/71													
LTE Anchor Bands for n5	LTE B2/7/30/48/66													
LTE Anchor Bands for n7	LTE B2/4/5/12/66													
LTE Anchor Bands for n12	LTE B2/66													
LTE Anchor Bands for n25	LTE B7/12/26/66													
LTE Anchor Bands for n41	LTE B2/4/5/12/25/26/66/71													
LTE Anchor Bands for n66	LTE B2/5/7/12/13/14/30/48/71													
LTE Anchor Bands for n71	LTE B2/7/66/48													
LTE Anchor Bands for n77	LTE B2/5/7/12/13/14/25/30/66/41													
LTE Anchor Bands for n78	LTE B2/4/5/7/12/13/25/26/66/71/38/41													
Transmission (H, M, L) channel numbers and frequencies in each 5G NR band														
NR Band 2														
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz							
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)						
L	370500	1852.5	371000	1855	371500	1857.5	372000	1860						
M	376000	1880	376000	1880	376000	1880	376000	1880						
H	381500	1907.5	381000	1905	380500	1902.5	380000	1900						
NR Band 5														
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz							
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)						
L	165300	826.5	165800	829	166300	831.5	166800	834						
M	167300	836.5	167300	836.5	167300	836.5	167300	836.5						
H	169300	846.5	168800	844	168300	841.5	167800	839						
NR Band 7														
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500500	2502.5	501000	2505	501500	2507.5	502000	2510	502500	2512.5	503000	2515	504000	2520
M	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535
H	513500	2567.5	513000	2565	512500	2562.5	512000	2560	511500	2557.5	511000	2555	510000	2550
NR Band 12														
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz									
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)								
L	140300	701.5	140800	704	141300	706.5								
M	141500	707.5	141500	707.5	141500	707.5								
H	142700	713.5	142200	711	141700	708.5								



NR Band 14					
Bandwidth 5MHz			Bandwidth 10MHz		
Ch. #		Freq. (MHz)	Ch. #		Freq. (MHz)
L	158100	790.5	158600		793
M	158600	793			
H	159100	795.5			

NR Band 25																
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	370500	1852.5	371000	1855	371500	1857.5	372000	1860	372500	1862.5	373000	1865	373500	1867.5	374000	1870
M	376500	1882.5	376500	1882.5	376500	1882.5	376500	1882.5	376500	1882.5	376500	1882.5	376500	1882.5	376500	1882.5
H	382500	1912.5	382000	1910	381500	1907.5	381000	1905	380500	1902.5	380000	1900	379500	1897.5	379000	1895

	NR Band 26							
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	163300	816.5	163800	819	164300	821.5	164800	824
M	166300	831.5	166300	831.5	166300	831.5	166300	831.5
H	169300	846.5	168800	844	168300	841.5	167800	839

NR Band 30					
Bandwidth 5MHz			Bandwidth 10MHz		
Ch. #		Freq. (MHz)	Ch. #		Freq. (MHz)
L	461500	2307.5	462000		2310
M	462000	2310			
H	462500	2312.5			

NR Band 66																
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	342500	1712.5	343000	1715	343500	1717.5	344000	1720	344500	1722.5	345000	1725	345500	1727.5	346000	1730
M	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745
H	355500	1777.5	355000	1775	354500	1772.5	354000	1770	353500	1767.5	353000	1765	352500	1762.5	352000	1760

NR Band 70						
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	339500	1697.5	340000	1700	340500	1702.5
M	340500	1702.5	340500	1702.5		
H	341500	1707.5	341000	1705		

NR Band 71													
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	
L	133100	665.5	133600	668	134100	670.5	134600	673	135100	675.5	135600	678	
M	136100	680.5	136100	680.5	136100	680.5	136100	680.5	136100	680.5	136100	680.5	
H	139100	695.5	138600	693	138100	690.5	137600	688	137100	685.5	136600	683	

	NR Band 38									
	Bandwidth10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	515004	2575.02	515502	2577.51	516000	2580	517002	2585.01	518004	2590.02
M	519000	2595	519000	2595	519000	2595	519000	2595	519000	2595
H	522996	2614.98	522498	2612.49	522000	2610	520998	2604.99	519996	2599.98

NR Band 41																						
Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz		
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	
L	500202	2501.01	500700	2503.5	501204	2506.02	502200	2511	503202	2516.01	504204	2521.02	505200	2526	500202	2501.01	507204	2536.02	508200	2541	509202	2546.01
M	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H	537000	2685	536496	2682.48	535998	2679.99	534996	2674.98	534000	2670	532998	2664.99	531996	2659.98	537000	2685	529998	2649.99	528996	2644.98	528000	2640

NR Band 48								
	Bandwidth 10MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	637000	3555	637334	3560.01	637668	3565.02	638000	3570
M	641666	3624.99	641666	3624.99	641666	3624.99	641666	3624.99
H	646332	3694.98	646000	3690	645666	3684.99	645332	3679.98



NR Band 77																					
Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L 647000	3705	647168	3707.52	647334	3710.01	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02	650000	3750
M 656000	3840	656000	3840	656000	3840	656000	3840.00	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
H 665000	3975	664832	3972.48	664666	3969.99	664332	3964.98	664000	3960	663666	3954.99	663332	3949.98	663000	3945	662666	3939.99	662332	3934.98	662000	3930

NR Band 78																					
Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L 647000	3705	647168	3707.52	647334	3710.01	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02		
M 650000	3750	650000	3750	650000	3750	650000	3750.00	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750
H 653000	3795	652832	3792.48	652666	3789.99	652332	3784.98	652000	3780	651666	3774.99	651332	3769.98	651000	3765	650666	3759.99	650332	3754.98		

For <3450 MHz ~ 3550 MHz >

NR Band 77																					
Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L 630334	3455.01	630500	3457.5	630668	3460.02	631000	3465	631334	3470.01	631668	3475.02	632000	3480	632334	3485.01	632668	3490.02	633000	3495		
M 633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98
H 636332	3544.98	636166	3542.49	636000	3540	635666	3534.99	635332	3529.98	635000	3525	634666	3519.99	634332	3514.98	634000	3510	633666	3504.99		

NR Band 78																					
Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L 630334	3455.01	630500	3457.5	630668	3460.02	631000	3465	631334	3470.01	631668	3475.02	632000	3480	632334	3485.01	632668	3490.02	633000	3495		
M 633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98
H 636332	3544.98	636166	3542.49	636000	3540	635666	3534.99	635332	3529.98	635000	3525	634666	3519.99	634332	3514.98	634000	3510	633666	3504.99		

<For NR Overlap Bands Description>

1) NR Bands BW

Band	Duplex	SCS(KHz)	Bandwidths(BW)
n2	FDD	15	5,10,15,20
n25	FDD	15	5,10,15,20,25,30,35,40
n5	TDD	15	5,10,15,20
n26	TDD	15	5,10,15,20
n38	FDD	15	10,15,20,30,40
n41	FDD	15	10,15,20,30,40,50,60,70,80,90,100
n77	TDD	30	10,15,20,30,40,50,60,70,80,90,100
n78	TDD	30	10,15,20,30,40,50,60,70,80,90,100

2) NR Bands Tune up:

Band	Antenna	For Head Default	For Body Default	Head	Body Worn	Sensor off	Extremity	Hotspot
		Tune-up Limit	Tune-up Limit	DSI 2 Tune-up Limit	DSI 3 Tune-up Limit	DSI 4 Tune-up Limit	DSI 6 Tune-up Limit	DSI 7 Tune-up Limit
n2	Ant 0	24.0	24.0	24.0	18.0	24.0	20.0	16.0
n25		24.0	24.0	24.0	18.0	24.0	20.0	16.0
n2	Ant 1	24.0	24.0	17.0	19.0	24.0	22.0	17.0
n25		24.0	24.0	17.0	19.0	24.0	22.0	17.0
n5	Ant 0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
n26		24.0	24.0	24.0	24.0	24.0	24.0	24.0
n5	Ant 1	24.0	24.0	20.5	23.5	24.0	24.0	21.5
n26		24.0	24.0	20.5	23.5	24.0	24.0	21.5
n38 PC3	Ant 9	24.0	24.0	24.0	19.0	24.0	21.0	15.5
n41 PC3		24.0	24.0	24.0	19.0	24.0	21.0	15.5
n38 PC3	Ant 1	24.0	24.0	16.0	16.5	24.0	19.5	15.0
n41 PC3		23.0	24.0	16.0	16.5	24.0	19.5	15.0

**3) NR Bands SA Tune up:**

Band	Antenna	For Head	For Body	Head	Body Worn	Sensor off	Extremity	Hotspot
		Default	Default	DSI 2	DSI 3	DSI 4	DSI 6	DSI 7
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
n77_PC3	Ant 4	24.0	24.0	18.5	17.5	24.0	18.5	15.0
n77_PC2		27.0	27.0	18.5	17.5	27.0	18.5	15.0
n78_PC3		24.0	24.0	17.5	16.0	24.0	18.5	13.0
n78_PC2		27.0	27.0	17.5	16.0	27.0	18.5	13.0
n77_PC3	Ant 7	21.0	22.0	21.0	17.0	22.0	22.0	15.5
n77_PC2		23.0	24.0	23.0	17.0	24.0	22.5	15.5
n78_PC3		22.0	22.0	22.0	17.0	22.0	21.0	15.5
n78_PC2		24.0	24.0	24.0	17.0	24.0	21.0	15.5
n77_PC3	Ant 10	24.0	24.0	24.0	12.5	24.0	16.0	11.5
n77_PC2		27.0	27.0	27.0	12.5	27.0	16.0	11.5
n78_PC3		24.0	24.0	24.0	12.5	24.0	16.0	11.5
n78_PC2		27.0	27.0	27.0	12.5	27.0	16.0	11.5
n77_PC3	Ant 8	21.0	22.0	15.5	15.0	22.0	19.5	13.5
n77_PC2		23.0	24.0	15.5	15.0	24.0	19.5	13.5
n78_PC3		22.0	22.0	15.5	15.0	22.0	19.5	13.5
n78_PC2		24.0	24.0	15.5	15.0	24.0	19.5	13.5

4) NR Bands Other PA Tune up:

Band	Antenna	For Head	For Body	Head	Body Worn	Sensor off	Extremity	Hotspot
		Default	Default	DSI 2	DSI 3	DSI 4	DSI 6	DSI 7
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
n77_PC3	Ant 4	23.5	23.5	18.5	17.5	23.5	18.5	15
n77_PC2		25.5	25.5	18.5	17.5	25.5	18.5	15
n78_PC3		23.5	23.5	17.5	16	23.5	18.5	13
n78_PC2		25.5	25.5	17.5	16	25.5	18.5	13
n77_PC3	Ant 7	23	24	23	17	24	22.5	15.5
n77_PC2		26	27	23	17	27	22.5	15.5
n78_PC3		24	24	24	17	24	21	15.5
n78_PC2		27	27	24	17	27	21	15.5
n77_PC3	Ant 10	23	23	23	12.5	23	16	11.5
n77_PC2		25	25	25	12.5	25	16	11.5
n78_PC3		23	23	23	12.5	23	16	11.5
n78_PC2		25	25	25	12.5	25	16	11.5
n77_PC3	Ant 8	22	23	15.5	15	23	19.5	13.5
n77_PC2		24	25	15.5	15	25	19.5	13.5
n78_PC3		23	23	15.5	15	23	19.5	13.5
n78_PC2		25	25	15.5	15	25	19.5	13.5

5. Smart Transmit feature for RF Exposure compliance

The 2nd generation of Smart Transmit (GEN2) operates based on pre-defined sub6 antenna groups (AG). This Device is enabled with the Qualcomm® Smart Transmit Gen2 feature. The RF exposure limit is defined based on time-averaged RF exposure. The product implements Qualcomm Smart Transmit feature which controls the instantaneous transmitting power for WWAN transmitter to ensure the product in compliance with RF exposure limit over a defined time window, for SAR (transmit frequency ≤ 6GHz). To control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement.

Note that WLAN/BT operations are not enabled with Smart Transmit.

This report describes the procedures for the SAR char generation, and the parameters obtained from SAR characterization (referred to as SAR char, respectively) will be used as input for Smart Transmit. SAR char will be entered via the Embedded File System (EFS) to enable the Smart Transmit Gen2 Feature.

<Terminologies in this report>

P_{limit}	The time-averaged RF power which corresponds to SAR_design_target.
P_{max}	Maximum target power level
SAR_design_target:	The design target for SAR compliance. It should be less than regulatory SAR limit to account for all device design related uncertainty.
SAR char	P _{limit} for all the technologies/bands for all applicable DSI

<SAR Characterization>

SAR char must be generated to cover all radio configurations and usage scenarios that the wireless device supports for operating at 6 GHz or below. It will then be used as input for Smart Transmit to control and manage RF exposure for f < 6 GHz.

<SAR design target and uncertainty>

Item	Uncertainty dB (k=2)
Total uncertainty	1.5

To account for total uncertainty, SAR_design_target should be determined as:

$$SAR_{design_target} < SAR_{regulatory_limit} \times 10^{\frac{-total\ uncertainty}{10}}$$

Antenna Group:

Antenna Group 0 (AG0)	ANT0 & ANT2 & ANT9
Antenna Group 1 (AG1)	ANT1 & ANT6 & ANT4 & ANT7 & ANT8 & ANT10 & ANT9

Note: Ant9 as shared antennas (sAnt) among AG0 and AG1.



The Smart Transmit algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of SAR_design_target, below the predefined time-averaged power limit, for each characterized technology and band.

Smart Transmit allows the device to transmit at higher power instantaneously, as high as Pmax, when needed, but enforces power limiting to maintain time-averaged transmit power to Plimit. Below table shows Plimit EFS settings and maximum tune up output power Pmax configured for this EUT for various transmit conditions (Device State Index DSI).

<P_{limit} for supported technologies and bands (P_{limit} in EFS file)>

Band	Antenna	Head	Body Worn	Sensor OFF	Extremity	Hotspot	Pmax*	DSI 2 Head Pmax ⁽⁴⁾
		DSI2	DSI3	DSI4	DSI6	DSI7		
GSM850	ANT 0	30.9	24.6	23.5	23.5	24.6	23.5	23.5
GSM1900	ANT 0	33.5	18.1	20.5	20.5	16.6	20.5	20.5
WCDMA II	ANT 0	31.3	16.2	23.0	19.7	14.7	23.0	23.0
WCDMA II	ANT 1	17.5	18.5	23.0	23.0	17.0	23.0	23.0
WCDMA IV	ANT 0	31.3	17.2	23.0	20.2	15.7	23.0	23.0
WCDMA IV	ANT 1	16.9	17.4	23.0	20.9	16.4	23.0	23.0
WCDMA V	ANT 0	28.8	23.0	23.0	23.0	23.0	23.0	23.0
WCDMA V	ANT 1	20.9	23.0	23.0	23.0	20.9	23.0	23.0
LTE Band 25/2	ANT 0	31.1	16.4	23.0	19.9	15.4	23.0	23.0
LTE Band 25/2	ANT 1	16.0	18.0	23.0	21.5	16.0	23.0	23.0
LTE Band 66/4	ANT 0	31.0	17.4	23.0	20.9	15.9	23.0	23.0
LTE Band 66/4	ANT 1	17.1	17.0	23.0	21.6	15.5	23.0	23.0
LTE Band 26/5	ANT 0	28.7	23.2	23.0	23.0	23.1	23.0	23.0
LTE Band 26/5	ANT 1	19.9	23.0	23.0	24.0	21.4	23.0	23.0
LTE Band 7	ANT 9	27.9	18.9	23.0	19.0	15.9	23.0	23.0
LTE Band 7	ANT 1	14.6	15.6	23.0	18.1	14.1	23.0	23.0
LTE Band 12/17	ANT 0	30.9	23.8	23.0	23.0	23.7	23.0	23.0
LTE Band 12/17	ANT 1	20.2	23.0	23.0	23.0	22.5	23.0	23.0
LTE Band 13	ANT 0	29.5	23.4	23.0	23.0	23.3	23.0	23.0
LTE Band 13	ANT 1	20.2	23.0	23.0	23.0	22.5	23.0	23.0
LTE Band 14	ANT 0	28.9	23.8	23.0	23.0	23.7	23.0	23.0
LTE Band 14	ANT 1	21.5	23.0	23.0	23.0	21.5	23.0	23.0
LTE Band 30	ANT 9	33.7	23.2	23.0	22.1	21.1	23.0	23.0
LTE Band 30	ANT 1	15.4	15.9	23.0	17.9	14.4	23.0	23.0
LTE Band 71	ANT 0	30.6	24.0	23.0	23.0	24.0	23.0	23.0
LTE Band 71	ANT 1	19.6	23.0	23.0	23.0	22.5	23.0	23.0
LTE Band 41/38 PC3	ANT 9	27.1	17.5	22.4	21.0	16.0	21.0	21.0
LTE Band 41 PC2	ANT 9						22.4	22.4
LTE Band 41/38 PC3	ANT 1	14.1	16.1	22.4	18.1	14.6	21.0	21.0
LTE Band 41 PC2	ANT 1						22.4	22.4
LTE Band 41 PC3	ANT 2	22.4	22.4	22.4	22.4	20.5	21.0	21.0
LTE Band 41 PC2	ANT 2						22.4	22.4
LTE Band 41 PC3	ANT 6	20.5	20.5	21.4	19.3	15.3	21.0	21.0
LTE Band 41 PC2	ANT 6						21.4	21.4
LTE Band 48	ANT 4	17.0	15.2	21.0	17.0	12.0	21.0	21.0
LTE Band 48	ANT 7	25.2	14.7	21.0	21.0	13.2	21.0	21.0
LTE Band 48	ANT 10	28.3	16.2	21.0	19.7	14.7	21.0	21.0
LTE Band 48	ANT 8	13.2	14.7	21.0	18.7	13.7	21.0	21.0
FR1 n25/2	ANT 0	33.7	17.0	23.0	19.0	15.0	23.0	23.0
FR1 n25/2	ANT 1	16.0	18.0	23.0	21.0	16.0	23.0	23.0
FR1 n26/5	ANT 0	30.9	24.0	23.0	23.0	24.0	23.0	23.0
FR1 n26/5	ANT 1	19.5	22.5	23.0	23.0	20.5	23.0	23.0
FR1 n7	ANT 9	31.7	19.5	23.0	20.0	17.0	23.0	23.0
FR1 n7	ANT 1	14.5	16.0	23.0	18.5	14.5	23.0	23.0
FR1 n12	ANT 0	32.7	25.3	23.0	23.0	25.3	23.0	23.0
FR1 n12	ANT 1	20.0	23.7	23.0	23.0	22.0	23.0	23.0
FR1 n14	ANT 0	32.7	24.6	23.0	23.0	24.6	23.0	23.0



FR1 n14	ANT 1	21.0	24.7	23.0	23.0	26.5	23.0	23.0
FR1 n30	ANT 9	34.4	23.7	23.0	21.5	21.0	23.0	23.0
FR1 n30	ANT 1	16.0	16.5	23.0	18.5	15.0	23.0	23.0
FR1 n66	ANT 0	33.6	17.0	23.0	20.5	16.0	23.0	23.0
FR1 n66	ANT 1	17.5	17.5	23.0	20.0	16.0	23.0	23.0
FR1 n70	ANT 0	34.1	19.0	23.0	21.0	18.0	23.0	23.0
FR1 n70	ANT 1	17.5	18.0	23.0	21.0	16.5	23.0	23.0
FR1 n71	ANT 0	32.4	26.6	23.0	23.0	26.5	23.0	23.0
FR1 n71	ANT 1	20.0	23.8	23.0	23.0	22.0	23.0	23.0
FR1 n41/38 PC3	ANT 9	29.5	18.0	26.0	20.0	14.5	23.0	23.0
FR1 n41 PC2	ANT 9						26.0	26.0
FR1 n41/38 PC3	ANT 1	15.0	15.5	26.0	18.5	14.0	23.0	22.0
FR1 n41 PC2	ANT 1						26.0	25.0
FR1 n41 PC3	ANT 2	31.6	22.0	22.0	22.0	20.5	23.0	23.0
FR1 n41 PC2	ANT 2						25.0	25.0
FR1 n41 PC3	ANT 6	19.5	18.0	24.5	17.5	14.5	22.5	21.5
FR1 n41 PC2	ANT 6						24.5	23.5
FR1 n41 PC3	ANT 10	37.2	22.5	25.0	25.0	21.0	23.0	23.0
FR1 n41 PC2	ANT 10						25.0	25.0
FR1 n48	ANT 4	17.0	14.5	23.0	17.0	12.0	23.0	23.0
FR1 n48	ANT 7	29.2	15.0	23.0	21.5	13.5	23.0	23.0
FR1 n48	ANT 10	31.5	10.5	23.0	15.0	9.5	23.0	23.0
FR1 n48	ANT 8	16.5	15.0	23.0	19.5	13.5	23.0	23.0
FR1 n77 PC3	ANT 4	17.5	16.5	26.0	17.5	14.0	23.0	23.0
FR1 n77 PC2	ANT 4						26.0	26.0
FR1 n77 PC3	ANT 7	27.4	16.0	23.0	21.5	14.5	21.0	20.0
FR1 n77 PC2	ANT 7						23.0	22.0
FR1 n77 PC3	ANT 10	31.3	11.5	26.0	15.0	10.5	23.0	23.0
FR1 n77 PC2	ANT 10						26.0	26.0
FR1 n77 PC3	ANT 8	14.5	14.0	23.0	18.5	12.5	21.0	20.0
FR1 n77 PC2	ANT 8						23.0	22.0
FR1 n78 PC3	ANT 4	16.5	15.0	26.0	17.5	12.0	23.0	23.0
FR1 n78 PC2	ANT 4						26.0	26.0
FR1 n78 PC3	ANT 7	28.0	16.0	23.0	20.0	14.5	21.0	21.0
FR1 n78 PC2	ANT 7						23.0	23.0
FR1 n78 PC3	ANT 10	33.9	11.5	26.0	15.0	10.5	23.0	23.0
FR1 n78 PC2	ANT 10						26.0	26.0
FR1 n78 PC3	ANT 8	14.5	14.0	23.0	18.5	12.5	21.0	21.0
FR1 n78 PC2	ANT 8						23.0	23.0

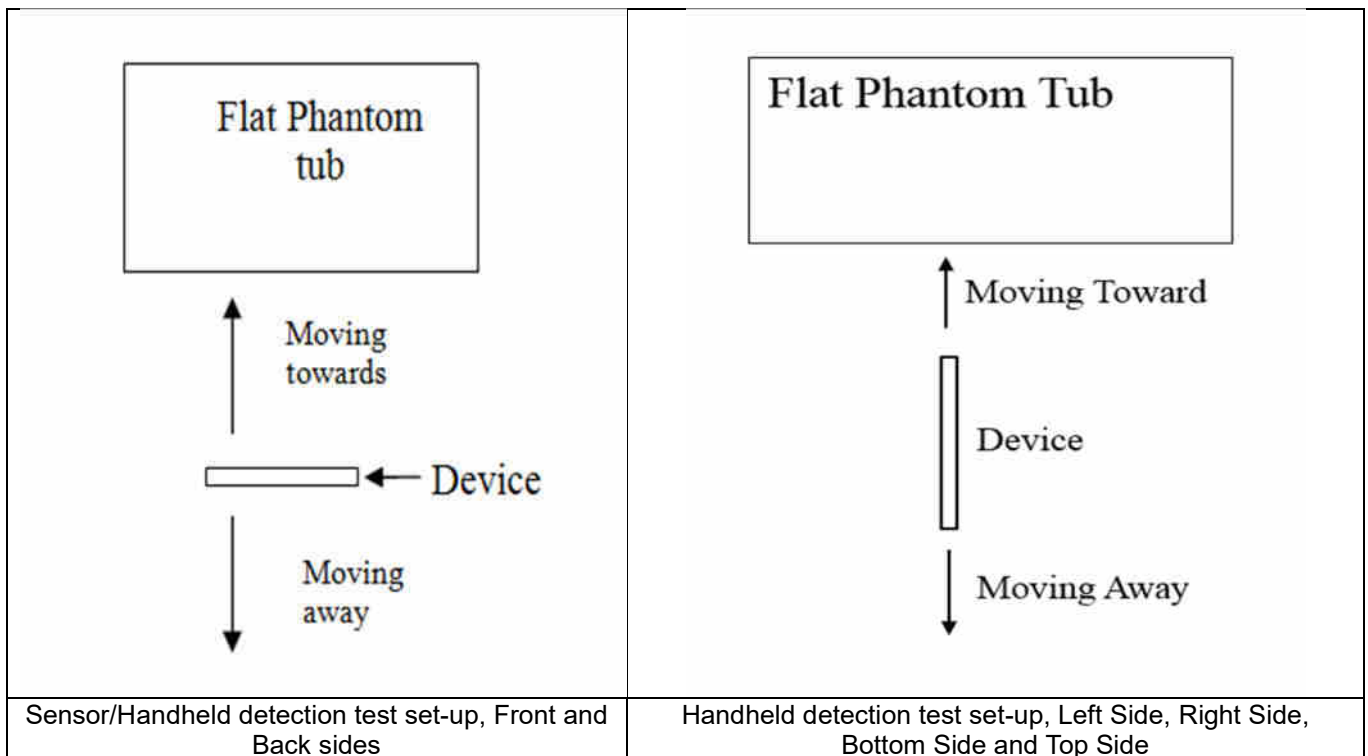
Note:

- 1) *Pmax is used for RF tune up procedure. The maximum allowed output power is equal to Pmax + 1.0 dB device uncertainty.
- 2) All Plimit power levels entered in the Table correspond to average power levels after accounting for duty cycle in the case TDD modulation schemes (for e.g., GSM & LTE TDD & NR TDD).
- 3) The max allowed output power is the Plimit + 1.0 dB device uncertainty, and if Plimit is higher than Pmax, the device output power will be Pmax instead.
- 4) When the user is talking a call-in head scenario and the receiver detect mechanism trigger is earpiece on, the maximum power level for head exposure conditions will be reduced and is less than the full power level.

6. Proximity Sensor Triggering Test

<Proximity Sensor Triggering Distance>:

1. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed and the tissue-equivalent medium for highest frequency (5850MHz) and lowest (835MHz) frequency was used for proximity sensor triggering testing.
2. Capacitive proximity sensors placed coincident with antenna elements at the top and bottom ends of the phone are utilized to determine when the device comes in proximity of the user's body at the front or back of the device.
3. The output power will reduce to body worn power level when top and bottom sensor pad be detected.
4. The sensors used to detect the proximity of the user's body at the front or back surface of the device use a detection threshold distance. The data shown in the sections below shows the distance(s). When front or back body worn condition is detected reduced power will be active.
5. The device employs proximity sensors also can detect the presence of the user's a finger or hand when handheld state at the front/back/top/bottom/left/right sides of the device. When front/back/top/bottom/left/right sides of handheld condition is detected reduced power will be active.
6. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance -1mm was performed:



<P-Sensor>

Proximity Sensor Triggering Distance (mm)				
Position	Front		Back	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	15	20	23	29

<Handheld for ANT 0>

Proximity Sensor Triggering Distance (mm)						
Position	Front		Back		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	6	11	11	16	13	19

<Handheld for ANT1&4>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Left Side		Top Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	5	11	13	19	8	13	9	14

<Handheld for ANT 9>

Proximity Sensor Triggering Distance (mm)						
Position	Front		Back		Right Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	1	5	6	11	8	14

<Handheld for ANT 6&10>

Proximity Sensor Triggering Distance (mm)						
Position	Front		Back		Left Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	6	12	11	15	14	20

<Handheld for ANT3&7&5&8>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Right Side		Top Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	8	14	16	23	9	14	13	18

7. RF Exposure Limits

7.1 Uncontrolled Environment

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

7.2 Controlled Environment

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. The exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

8. Specific Absorption Rate (SAR)

8.1 Introduction

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

8.2 SAR Definition

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

$$SAR = \frac{d}{dt} \left(\frac{dW}{dm} \right) = \frac{d}{dt} \left(\frac{dW}{\rho dv} \right)$$

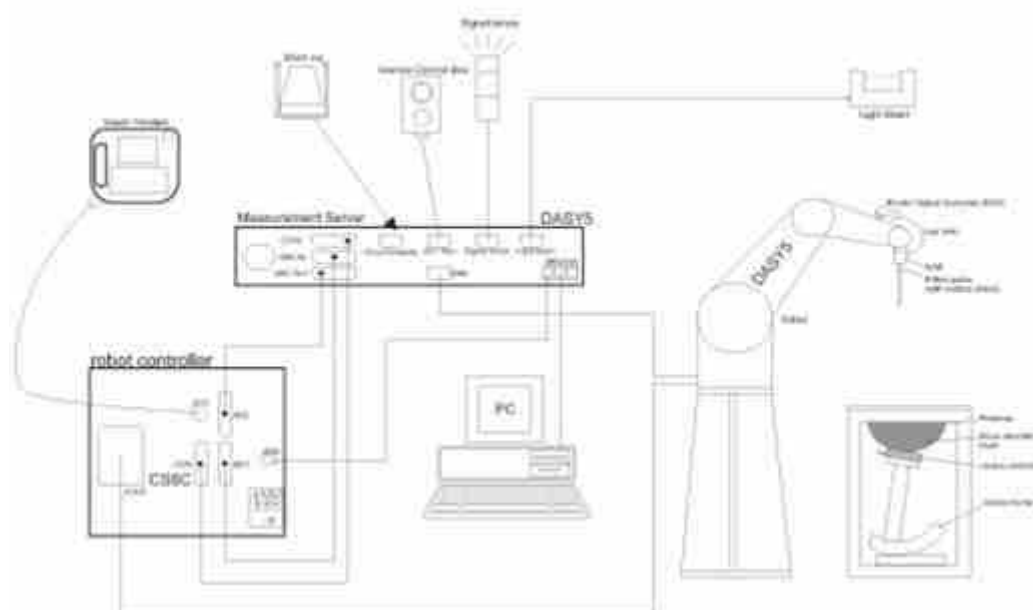
SAR is expressed in units of Watts per kilogram (W/kg)

$$SAR = \frac{\sigma |E|^2}{\rho}$$

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength.

9. System Description and Setup

The DASY5 system used for performing compliance tests consists of the following items:



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP or Win10 and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

9.1 E-Field Probe

The SAR measurement is conducted with the dosimetric probe (manufactured by SPEAG). The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency. This probe has a built in optical surface detection system to prevent from collision with phantom.

<EX3DV4 Probe>

Construction	Symmetric design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	10 MHz – >6 GHz Linearity: ± 0.2 dB (30 MHz – 6 GHz)	
Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)	
Dynamic Range	10 μ W/g – >100 mW/g Linearity: ± 0.2 dB (noise: typically <1 μ W/g)	
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 2.5 mm (body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm	

9.2 Data Acquisition Electronics (DAE)

The data acquisition electronics (DAE) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock.

The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.



Photo of DAE

9.3 Phantom

<SAM Twin Phantom>

Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm	
Filling Volume	Approx. 25 liters	
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet	
Measurement Areas	Left Hand, Right Hand, Flat Phantom	

The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

<ELI Phantom>

Shell Thickness	2 ± 0.2 mm (sagging: <1%)	
Filling Volume	Approx. 30 liters	
Dimensions	Major ellipse axis: 600 mm Minor axis: 400 mm	

The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices or for evaluating transmitters operating at low frequencies. ELI is fully compatible with standard and all known tissue simulating liquids.

9.4 Device Holder

<Mounting Device for Hand-Held Transmitter>

In combination with the Twin SAM V5.0/V5.0c or ELI phantoms, the Mounting Device for Hand-Held Transmitters enables rotation of the mounted transmitter device to specified spherical coordinates. At the heads, the rotation axis is at the ear opening. Transmitter devices can be easily and accurately positioned according to IEC 62209-1, IEEE 1528, FCC, or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat). And upgrade kit to Mounting Device to enable easy mounting of wider devices like big smart-phones, e-books, small tablets, etc. It holds devices with width up to 140 mm.



Mounting Device for Hand-Held Transmitters



Mounting Device Adaptor for Wide-Phones

<Mounting Device for Laptops and other Body-Worn Transmitters>

The extension is lightweight and made of POM, acrylic glass and foam. It fits easily on the upper part of the mounting device in place of the phone positioned. The extension is fully compatible with the SAM Twin and ELI phantoms.



Mounting Device for Laptops

10. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

- (a) For WWAN power measurement, use base station simulator to configure EUT WWAN transmission in conducted connection with RF cable, at maximum power in each supported wireless interface and frequency band.
- (b) Read the WWAN RF power level from the base station simulator.
- (c) For WLAN/BT power measurement, use engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power in each supported wireless interface and frequency band
- (d) Connect EUT RF port through RF cable to the power meter, and measure WLAN/BT output power

<SAR measurement>

- (a) Use base station simulator to configure EUT WWAN transmission in radiated connection, and engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power, in the highest power channel.
- (b) Place the EUT in the positions as Appendix D demonstrates.
- (c) Set scan area, grid size and other setting on the DASY software.
- (d) Measure SAR results for the highest power channel on each testing position.
- (e) Find out the largest SAR result on these testing positions of each band
- (f) Measure SAR results for other channels in worst SAR testing position if the reported SAR of highest power channel is larger than 0.8 W/kg

According to the test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

- (a) Power reference measurement
- (b) Area scan
- (c) Zoom scan
- (d) Power drift measurement

10.1 Spatial Peak SAR Evaluation

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The DASY software includes all numerical procedures necessary to evaluate the spatial peak SAR value.

The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.

The entire evaluation of the spatial peak values is performed within the post-processing engine (SEMCAD). The system always gives the maximum values for the 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

- (a) Extraction of the measured data (grid and values) from the Zoom Scan
- (b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
- (c) Generation of a high-resolution mesh within the measured volume
- (d) Interpolation of all measured values from the measurement grid to the high-resolution grid
- (e) Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
- (f) Calculation of the averaged SAR within masses of 1g and 10g

10.2 Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

10.3 Area Scan

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.

Area scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$
Maximum area scan spatial resolution: $\Delta x_{\text{Area}}, \Delta y_{\text{Area}}$	≤ 2 GHz: ≤ 15 mm $2 - 3$ GHz: ≤ 12 mm	$3 - 4$ GHz: ≤ 12 mm $4 - 6$ GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

10.4 Zoom Scan

Zoom scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 gram and 10 gram of simulated tissue. The zoom scan measures points (refer to table below) within a cube whose base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the zoom scan evaluates the averaged SAR for 1 gram and 10 gram and displays these values next to the job's label.

Zoom scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: $\Delta x_{\text{Zoom}}, \Delta y_{\text{Zoom}}$			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm *	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{\text{Zoom}}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{\text{Zoom}}(1)$: between 1 st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{\text{Zoom}}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{\text{Zoom}}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm
Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.				
* When zoom scan is required and the <u>reported</u> SAR from the <u>area scan based 1-g SAR estimation</u> procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.				

10.5 Volume Scan Procedures

The volume scan is used to assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing. When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

10.6 Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASY measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drifts more than 5%, the SAR will be retested.

11. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1099	Dec. 15, 2021	Dec. 13, 2024
SPEAG	835MHz System Validation Kit	D835V2	4d162	Dec. 17, 2021	Dec. 15, 2024
SPEAG	1750MHz System Validation Kit	D1750V2	1137	Oct. 19, 2021	Oct. 17, 2024
SPEAG	1900MHz System Validation Kit	D1900V2	5d182	Dec. 20, 2021	Dec. 18, 2024
SPEAG	2300MHz System Validation Kit	D2300V2	1056	Oct. 20, 2021	Oct. 18, 2024
SPEAG	2450MHz System Validation Kit	D2450V2	924	Nov. 03, 2023	Nov. 02, 2024
SPEAG	2600MHz System Validation Kit	D2600V2	1070	Dec. 20, 2021	Dec. 18, 2024
SPEAG	3300MHz System Validation Kit	D3300V2	1007	May. 09, 2022	May. 08, 2025
SPEAG	3500MHz System Validation Kit	D3500V2	1076	May. 09, 2022	May. 08, 2025
SPEAG	3700MHz System Validation Kit	D3700V2	1037	May. 09, 2022	May. 08, 2025
SPEAG	3900MHz System Validation Kit	D3900V2	1022	Aug. 18, 2022	Aug. 17, 2025
SPEAG	3900MHz System Validation Kit	D3900V2	1022	Nov. 15, 2022	Nov. 14, 2025
SPEAG	5000MHz System Validation Kit	D5GHzV2	1341	Dec. 13, 2021	Dec. 11, 2024
SPEAG	Data Acquisition Electronics	DAE4	1210	Mar. 23, 2023	Mar. 22, 2024
SPEAG	Dosimetric E-Field Probe	EX3DV4	7641	Apr. 24, 2023	Apr. 23, 2024
SPEAG	Dosimetric E-Field Probe	EX3DV4	7577	Dec. 23, 2023	Dec. 22, 2024
SPEAG	SAM Twin Phantom	QD 000 P40 CD	1795	NCR	NCR
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio communication analyzer	MT8820C	6201300653	Jul. 05, 2023	Jul. 04, 2024
Anritsu	Radio communication analyzer	MT8821C	6262314715	Jul. 05, 2023	Jul. 04, 2024
Agilent	Wireless Communication Test Set	E5515C	MY50267224	Jul. 05, 2023	Jul. 04, 2024
Keysight	Network Analyzer	E5071C	MY46523671	Oct. 16, 2023	Oct. 15, 2024
Speag	Dielectric Assessment KIT	DAK-3.5	1071	Feb. 20, 2023	Feb. 19, 2024
Speag	Dielectric Assessment KIT	DAK-3.5	1071	Feb. 19, 2024	Feb. 18, 2025
Agilent	Signal Generator	N5181A	MY50145381	Dec. 28, 2023	Dec. 27, 2024
R&S	Signal Generator	SMB100A	175779	Dec. 28, 2023	Dec. 27, 2024
Anritsu	Power Sensor	MA2411B	1306099	Oct. 16, 2023	Oct. 15, 2024
Anritsu	Power Meter	ML2495A	1349001	Oct. 16, 2023	Oct. 15, 2024
Anritsu	Power Sensor	MA2411B	1542004	Dec. 28, 2023	Dec. 27, 2024
Anritsu	Power Meter	ML2495A	1339473	Dec. 28, 2023	Dec. 27, 2024
R&S	CBT BLUETOOTH TESTER	CBT	100963	Dec. 28, 2023	Dec. 27, 2024
R&S	Spectrum Analyzer	FSP7	100818	Jul. 05, 2023	Jul. 04, 2024
TES	Hygrometer	1310	200505600	Jul. 08, 2023	Jul. 07, 2024
Anymetre	Thermo-Hygrometer	JR593	2015030904	Jul. 08, 2023	Jul. 07, 2024
SPEAG	Device Holder	N/A	N/A	N/A	N/A
AR	Amplifier	5S1G4	0333096	Note 1	
Mini-Circuits	Amplifier	ZVE-3W-83+	599201528	Note 1	
Mini-Circuits	Amplifier	ZVA-183W-S+	726202215	Note 1	
ARRA	Power Divider	A3200-2	N/A	Note 1	
ET Industries	Dual Directional Coupler	C-058-10	N/A	Note 1	
Jinkexinhua	Attenuator	10db-8G	N/A	Note 1	

Note:

- Prior to system verification and validation, the path loss from the signal generator to the system check source and the power meter, which includes the amplifier, cable, attenuator and directional coupler, was measured by the network analyzer. The reading of the power meter was offset by the path loss difference between the path to the power meter and the path to the system check source to monitor the actual power level fed to the system check
- Referring to KDB 865664 D01v01r04, the dipole calibration interval can be extended to 3 years with justification. The dipoles are also not physically damaged, or repaired during the interval.
- The justification data of dipole can be found in appendix C. The return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration.

12. System Verification

12.1 Tissue Simulating Liquids

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 11.1. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 11.2.



Fig 11.1 Photo of Liquid Height for Head SAR



Fig 11.2 Photo of Liquid Height for Body SAR

12.2 Tissue Verification

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (ϵ_r)
For Head								
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.40	40.0
2450	55.0	0	0	0	0	45.0	1.80	39.2
2600	54.8	0	0	0.1	0	45.1	1.96	39.0

Simulating Liquid for 5GHz, Manufactured by SPEAG

Ingredients	(% by weight)
Water	64~78%
Mineral oil	11~18%
Emulsifiers	9~15%
Additives and Salt	2~3%



<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Tissue Type	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (ϵ_r)	Conductivity Target (σ)	Permittivity Target (ϵ_r)	Delta (σ) (%)	Delta (ϵ_r) (%)	Limit (%)	Date
750	Head	22.3	0.903	41.696	0.89	41.90	1.46	-0.49	±5	2024/1/25
750	Head	22.3	0.912	42.087	0.89	41.90	2.47	0.45	±5	2024/2/19
835	Head	22.3	0.924	40.195	0.90	41.50	2.67	-3.14	±5	2024/1/26
835	Head	22.2	0.875	40.675	0.90	41.50	-2.78	-1.99	±5	2024/2/22
1750	Head	22.4	1.362	40.471	1.37	40.10	-0.58	0.93	±5	2024/1/27
1750	Head	22.3	1.383	41.900	1.37	40.10	0.95	4.49	±5	2024/2/25
1900	Head	22.3	1.433	40.643	1.40	40.00	2.36	1.61	±5	2024/1/28
1900	Head	22.2	1.387	41.154	1.40	40.00	-0.93	2.89	±5	2024/2/27
2300	Head	22.3	1.716	39.656	1.67	39.50	2.75	0.39	±5	2024/1/31
2300	Head	22.4	1.736	37.765	1.67	39.50	3.95	-4.39	±5	2024/3/15
2450	Head	22.2	1.790	38.844	1.80	39.20	-0.56	-0.91	±5	2024/1/28
2450	Head	22.2	1.869	37.944	1.80	39.20	3.83	-3.20	±5	2024/2/29
2600	Head	22.4	1.904	38.499	1.96	39.00	-2.86	-1.28	±5	2024/2/1
2600	Head	22.3	1.915	39.536	1.96	39.00	-2.30	1.37	±5	2024/3/1
3300	Head	22.3	2.702	37.441	2.70	38.13	0.07	-1.81	±5	2024/1/24
3300	Head	22.2	2.821	39.481	2.70	38.13	4.48	3.54	±5	2024/3/2
3500	Head	22.3	2.851	37.179	2.91	37.90	-2.03	-1.90	±5	2024/1/28
3500	Head	22.3	2.980	39.215	2.91	37.90	2.41	3.47	±5	2024/3/5
3700	Head	22.2	3.006	36.927	3.12	37.70	-3.65	-2.05	±5	2024/2/2
3700	Head	22.4	3.141	38.960	3.12	37.70	0.67	3.34	±5	2024/3/7
3900	Head	22.2	3.169	36.702	3.33	37.51	-4.83	-2.15	±5	2024/2/3
3900	Head	22.3	3.313	38.756	3.33	37.51	-0.51	3.32	±5	2024/3/8
5250	Head	22.3	4.570	36.554	4.71	35.95	-2.97	1.68	±5	2024/2/19
5250	Head	22.4	4.668	36.853	4.71	35.95	-0.89	2.51	±5	2024/3/10
5600	Head	22.4	4.923	36.069	5.07	35.50	-2.90	1.60	±5	2024/2/20
5600	Head	22.4	5.035	36.351	5.07	35.50	-0.69	2.40	±5	2024/3/11
5750	Head	22.4	5.077	35.841	5.22	35.35	-2.74	1.39	±5	2024/2/21
5750	Head	22.3	5.197	36.138	5.22	35.35	-0.44	2.23	±5	2024/3/13

12.3 System Performance Check Results

Comparing to the original SAR value provided by SPEAG, the verification data should be within its specification of 10 %. Below table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion and the plots can be referred to Appendix A of this report.

<1g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2024/1/25	750	Head	250	1099	7577	1210	2.270	8.540	9.08	6.32
2024/2/19	750	Head	250	1099	7577	1210	2.290	8.540	9.16	7.26
2024/1/26	835	Head	250	4d162	7577	1210	2.610	9.640	10.44	8.30
2024/2/22	835	Head	250	4d162	7577	1210	2.520	9.640	10.08	4.56
2024/1/27	1750	Head	250	1137	7577	1210	8.810	36.500	35.24	-3.45
2024/2/25	1750	Head	250	1137	7577	1210	9.190	36.500	36.76	0.71
2024/1/28	1900	Head	250	5d182	7577	1210	10.600	39.600	42.4	7.07
2024/2/27	1900	Head	250	5d182	7577	1210	10.000	39.600	40	1.01
2024/1/31	2300	Head	250	1056	7641	1210	11.600	48.800	46.4	-4.92
2024/3/15	2300	Head	250	1056	7641	1210	11.300	48.800	45.2	-7.38
2024/1/28	2450	Head	250	924	7577	1210	12.800	52.300	51.2	-2.10
2024/2/29	2450	Head	250	924	7577	1210	13.800	52.300	55.2	5.54
2024/2/1	2600	Head	250	1070	7577	1210	13.700	56.200	54.8	-2.49
2024/3/1	2600	Head	250	1070	7577	1210	14.300	56.200	57.2	1.78
2024/1/24	3300	Head	100	1007	7577	1210	6.890	66.500	68.9	3.61
2024/3/2	3300	Head	100	1007	7577	1210	7.190	66.500	71.9	8.12
2024/1/28	3500	Head	100	1076	7577	1210	7.020	66.200	70.2	6.04
2024/3/5	3500	Head	100	1076	7577	1210	6.540	66.200	65.4	-1.21
2024/2/2	3700	Head	100	1037	7577	1210	7.100	66.700	71	6.45
2024/3/7	3700	Head	100	1037	7577	1210	6.460	66.700	64.6	-3.15
2024/2/3	3900	Head	100	1022	7577	1210	6.050	66.400	60.5	-8.89
2024/3/8	3900	Head	100	1022	7577	1210	6.340	66.400	63.4	-4.52
2024/2/19	5250	Head	100	1341	7577	1210	7.390	80.700	73.9	-8.43
2024/3/10	5250	Head	100	1341	7577	1210	8.020	80.700	80.2	-0.62
2024/2/20	5600	Head	100	1341	7577	1210	7.930	84.500	79.3	-6.15
2024/3/11	5600	Head	100	1341	7577	1210	9.070	84.500	90.7	7.34
2024/2/21	5750	Head	100	1341	7577	1210	7.520	80.600	75.2	-6.70
2024/3/13	5750	Head	100	1341	7577	1210	8.630	80.600	86.3	7.07

<10q SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
2024/1/25	750	Head	250	1099	7577	1210	1.460	5.650	5.84	3.36
2024/2/19	750	Head	250	1099	7577	1210	1.510	5.650	6.04	6.90
2024/1/26	835	Head	250	4d162	7577	1210	1.710	6.260	6.84	9.27
2024/2/22	835	Head	250	4d162	7577	1210	1.650	6.260	6.6	5.43
2024/1/27	1750	Head	250	1137	7577	1210	4.930	19.200	19.72	2.71
2024/2/25	1750	Head	250	1137	7577	1210	4.900	19.200	19.6	2.08
2024/1/28	1900	Head	250	5d182	7577	1210	5.490	20.200	21.96	8.71
2024/2/27	1900	Head	250	5d182	7577	1210	5.230	20.200	20.92	3.56
2024/1/31	2300	Head	250	1056	7641	1210	5.880	22.800	23.52	3.16
2024/3/15	2300	Head	250	1056	7641	1210	5.270	22.800	21.08	-7.54
2024/1/28	2450	Head	250	924	7577	1210	6.150	24.500	24.6	0.41
2024/2/29	2450	Head	250	924	7577	1210	6.430	24.500	25.72	4.98
2024/2/1	2600	Head	250	1070	7577	1210	6.280	24.600	25.12	2.11
2024/3/1	2600	Head	250	1070	7577	1210	6.460	24.600	25.84	5.04
2024/1/24	3300	Head	100	1007	7577	1210	2.730	26.100	27.3	4.60
2024/3/2	3300	Head	100	1007	7577	1210	2.850	26.100	28.5	9.20
2024/1/28	3500	Head	100	1076	7577	1210	2.680	25.500	26.8	5.10
2024/3/5	3500	Head	100	1076	7577	1210	2.520	25.500	25.2	-1.18
2024/2/2	3700	Head	100	1037	7577	1210	2.620	24.600	26.2	6.50
2024/3/7	3700	Head	100	1037	7577	1210	2.400	24.600	24	-2.44
2024/2/3	3900	Head	100	1022	7577	1210	2.180	23.700	21.8	-8.02
2024/3/8	3900	Head	100	1022	7577	1210	2.260	23.700	22.6	-4.64
2024/2/19	5250	Head	100	1341	7577	1210	2.310	23.100	23.1	0.00
2024/3/10	5250	Head	100	1341	7577	1210	2.260	23.100	22.6	-2.16
2024/2/20	5600	Head	100	1341	7577	1210	2.550	24.000	25.5	6.25
2024/3/11	5600	Head	100	1341	7577	1210	2.560	24.000	25.6	6.67
2024/2/21	5750	Head	100	1341	7577	1210	2.190	22.700	21.9	-3.52
2024/3/13	5750	Head	100	1341	7577	1210	2.410	22.700	24.1	6.17

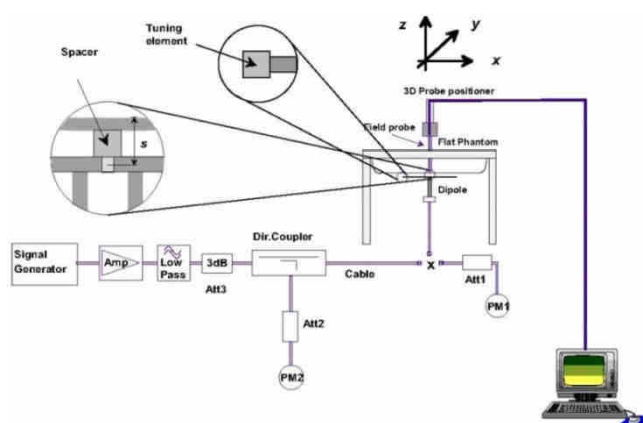


Fig 11.3.1 System Performance Check Setup



Fig 11.3.2 Setup Photo

13. RF Exposure Positions

13.1 Ear and handset reference point

Figure 12.1.1 shows the front, back, and side views of the SAM phantom. The center-of-mouth reference point is labeled “M,” the left ear reference point (ERP) is marked “LE,” and the right ERP is marked “RE.” Each ERP is 15 mm along the B-M (back-mouth) line behind the entrance-to-ear-canal (EEC) point, as shown in Figure 12.1.2 The Reference Plane is defined as passing through the two ear reference points and point M. The line N-F (neck-front), also called the reference pivoting line, is normal to the Reference Plane and perpendicular to both a line passing through RE and LE and the B-M line (see Figure 12.1.3). Both N-F and B-M lines should be marked on the exterior of the phantom shell to facilitate handset positioning. Posterior to the N-F line the ear shape is a flat surface with 6 mm thickness at each ERP, and forward of the N-F line the ear is truncated, as illustrated in Figure 12.1.2. The ear truncation is introduced to preclude the ear lobe from interfering with handset tilt, which could lead to unstable positioning at the cheek.

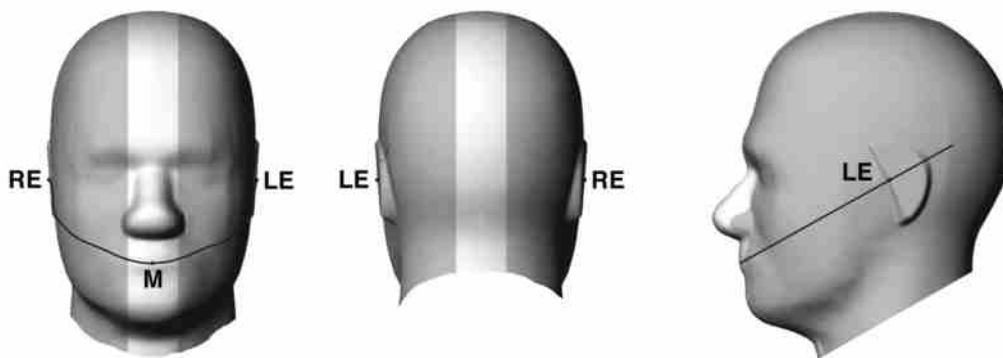


Fig 12.1.1 Front, back, and side views of SAM twin phantom

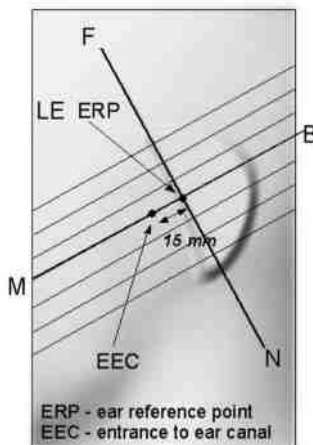


Fig 12.1.2 Close-up side view of phantom showing the ear region.

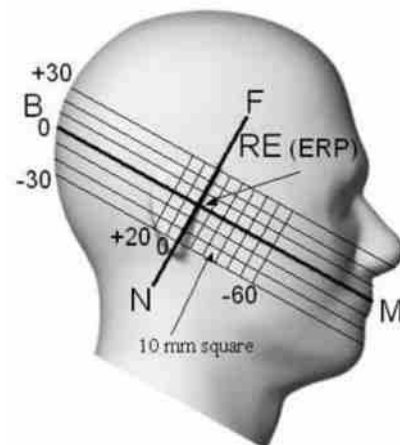


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

13.2 Definition of the cheek position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. Define two imaginary lines on the handset—the vertical centerline and the horizontal line. The vertical centerline passes through two points on the front side of the handset—the midpoint of the width w_t of the handset at the level of the acoustic output (point A in Figure 12.2.1 and Figure 12.2.2), and the midpoint of the width w_b of the bottom of the handset (point B). The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output (see Figure 12.2.1). The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the handset. Also note that the vertical centerline is not necessarily parallel to the front face of the handset (see Figure 12.2.2), especially for clamshell handsets, handsets with flip covers, and other irregularly-shaped handsets.
3. Position the handset close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 12.2.3), such that the plane defined by the vertical centerline and the horizontal line of the handset is approximately parallel to the sagittal plane of the phantom.
4. Translate the handset towards the phantom along the line passing through RE and LE until handset point A touches the pinna at the ERP.
5. While maintaining the handset in this plane, rotate it around the LE-RE line until the vertical centerline is in the plane normal to the plane containing B-M and N-F lines, i.e., the Reference Plane.
6. Rotate the handset around the vertical centerline until the handset (horizontal line) is parallel to the N-F line.
7. While maintaining the vertical centerline in the Reference Plane, keeping point A on the line passing through RE and LE, and maintaining the handset contact with the pinna, rotate the handset about the N-F line until any point on the handset is in contact with a phantom point below the pinna on the cheek. See Figure 12.2.3. The actual rotation angles should be documented in the test report.

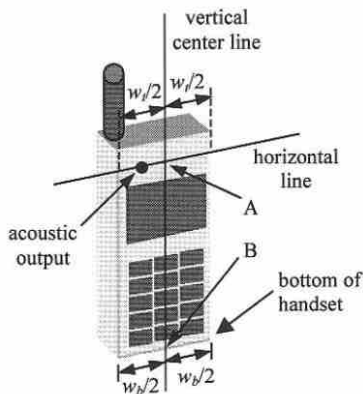


Fig 12.2.1 Handset vertical and horizontal reference lines—“fixed case”

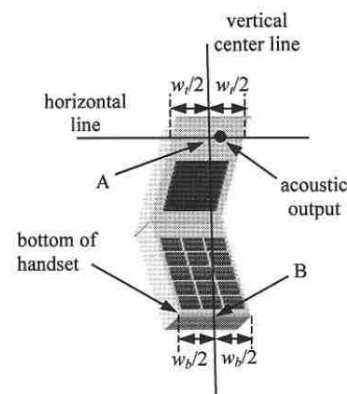


Fig 12.2.2 Handset vertical and horizontal reference lines—“clam-shell case”

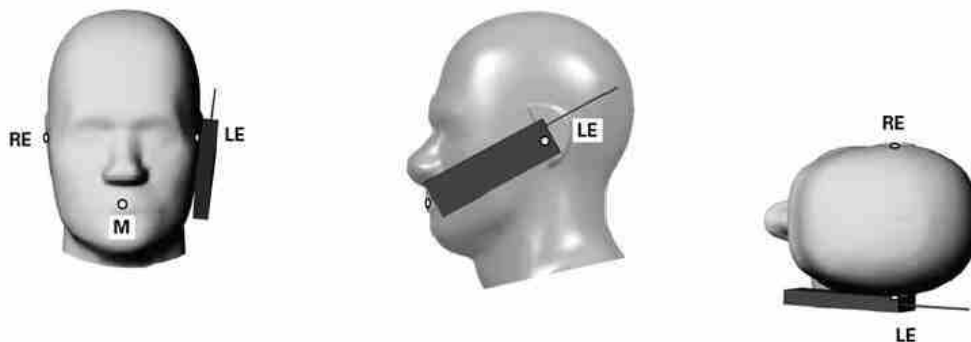


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

13.3 Definition of the tilt position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. While maintaining the orientation of the handset, move the handset away from the pinna along the line passing through RE and LE far enough to allow a rotation of the handset away from the cheek by 15°.
3. Rotate the handset around the horizontal line by 15°.
4. While maintaining the orientation of the handset, move the handset towards the phantom on the line passing through RE and LE until any part of the handset touches the ear. The tilt position is obtained when the contact point is on the pinna. See Figure 12.3.1. If contact occurs at any location other than the pinna, e.g., the antenna at the back of the phantom head, the angle of the handset should be reduced. In this case, the tilt position is obtained if any point on the handset is in contact with the pinna and a second point

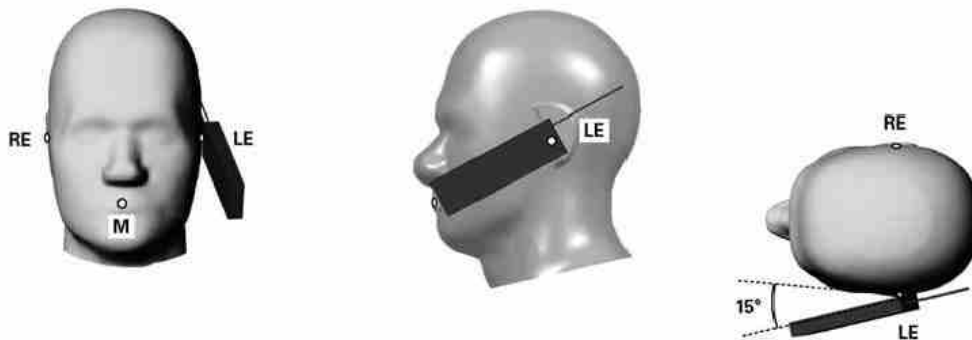


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

13.4 Body Worn Accessory

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 11.4). Per KDB648474 D04v01r03, body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for body-worn accessory, measured without a headset connected to the handset is $> 1.2 \text{ W/kg}$, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a handset attached to the handset.

Accessories for body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are test with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

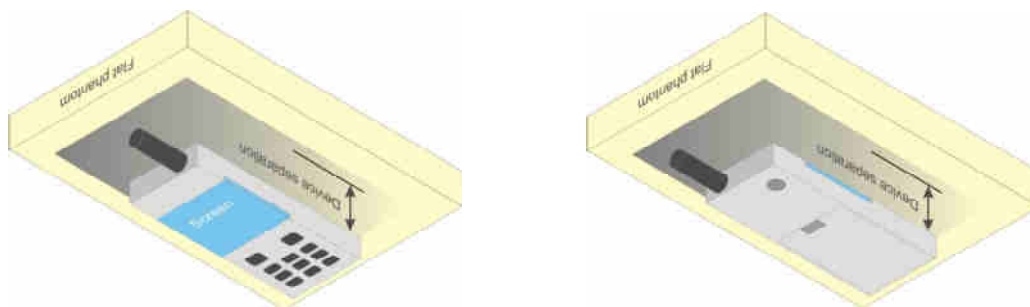


Fig 12.4 Body Worn Position

13.5 Product Specific 10g SAR Exposure

For smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, that can provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets and support voice calls next to the ear, According to KDB648474 D04v01r03, the following phablet procedures should be applied to evaluate SAR compliance for each applicable wireless modes and frequency band. Devices marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance

1. The normally required head and body-worn accessory SAR test procedures for handsets, including hotspot mode, must be applied.
2. The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge, in direct contact with a flat phantom, for 10-g extremity SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions.⁶ The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.

13.6 Wireless Router

Some battery-operated handsets have the capability to transmit and receive user through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06 v02r01 where SAR test considerations for handsets ($L \times W \geq 9$ cm x 5 cm) are based on a composite test separation distance of 10mm from the front, back and edges of the device containing transmitting antennas within 2.5cm of their edges, determined from general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.

When the user enables the personal wireless router functions for the handset, actual operations include simultaneous transmission of both the WIFI transmitter and another licensed transmitter. Both transmitters often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions due to the limitations of the SAR assessment probes. Therefore, SAR must be evaluated for each frequency transmission and mode separately and spatially summed with the WIFI transmitter according to FCC KDB Publication 447498 D01v06 publication procedures. The "Portable Hotspot" feature on the handset was NOT activated during SAR assessments, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal at a time.

14. Conducted RF Output Power (Unit: dBm)

The detailed conducted power table can refer to Appendix E.

<GSM Conducted Power>

1. Per KDB 447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested.
3. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq 1/4$ dB higher than the primary mode, SAR measurement is not required for the secondary mode.

<WCDMA Conducted Power>

1. The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
2. The procedures in KDB 941225 D01v03r01 are applied for 3GPP Rel. 6 HSPA to configure the device in the required sub-test mode(s) to determine SAR test exclusion.
3. For HSPA+ devices supporting 16 QAM in the uplink, power measurements procedure is according to the configurations in Table C.11.1.4 of 3GPP TS 34.121-1.
4. For DC-HSDPA, the device was configured according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1, with the primary and the secondary serving HS-DSCH Cell enabled during the power measurement.

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
 - i. Set Gain Factors (β_c and β_d) and parameters were set according to each
 - ii. Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
 - iii. Set RMC 12.2Kbps + HSDPA mode.
 - iv. Set Cell Power = -86 dBm
 - v. Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)
 - vi. Select HSDPA Uplink Parameters
 - vii. Set Delta ACK, Delta NACK and Delta CQI = 8
 - viii. Set Ack-Nack Repetition Factor to 3
 - ix. Set CQI Feedback Cycle (k) to 4 ms
 - x. Set CQI Repetition Factor to 2
 - xi. Power Ctrl Mode = All Up bits
- d. The transmitted maximum output power was recorded.

Table C.10.1.4: β values for transmitter characteristics tests with HS-DPCCH

Sub-test	β_c	β_d	β_d (SF)	β_o/β_d	β_{HS} (Note 1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5
Note 1: Δ_{ACK}, Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{HS} = 30/15 * \beta_c$. Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and $\Delta_{NACK} = 30/15$ with $\beta_{HS} = 30/15 * \beta_c$, and $\Delta_{CQI} = 24/15$ with $\beta_{HS} = 24/15 * \beta_c$. Note 3: CM = 1 for $\beta_o/\beta_d = 12/15$, $\beta_{HS}/\beta_c = 24/15$. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases. Note 4: For subtest 2 the β_o/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 11/15$ and $\beta_d = 15/15$.							

Setup Configuration

HSUPA Setup Configuration:

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting * :
 - i. Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK
 - ii. Set the Gain Factors (β_c and β_d) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121
 - iii. Set Cell Power = -86 dBm
 - iv. Set Channel Type = 12.2k + HSPA
 - v. Set UE Target Power
 - vi. Power Ctrl Mode= Alternating bits
 - vii. Set and observe the E-TFCI
 - viii. Confirm that E-TFCl is equal to the target E-TFCl of 75 for sub-test 1, and other subtest's E-TFCl
- d. The transmitted maximum output power was recorded.

Table C.11.1.3: β values for transmitter characteristics tests with HS-DPCCH and E-DCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note 1)	β_{ec}	β_{ed} (Note 4) (Note 5)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E-TFCl
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/25	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed1} : 47/15 β_{ed2} : 47/15	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

Note 1: For sub-test 1 to 4, Δ_{ACK} , Δ_{NACK} and $\Delta_{CDI} = 30/15$ with $\beta_{hs} = 30/15 * \beta_c$. For sub-test 5, Δ_{ACK} , Δ_{NACK} and $\Delta_{CDI} = 5/15$ with $\beta_{hs} = 5/15 * \beta_c$.

Note 2: CM = 1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$. For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.

Note 3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF0) to $\beta_c = 10/15$ and $\beta_d = 15/15$.

Note 4: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

Note 5: β_{ed} can not be set directly; it is set by Absolute Grant Value.

Note 6: For subtests 2, 3 and 4, UE may perform E-DPDCH power scaling at max power which could results in slightly smaller MPR values.

Setup Configuration

DC-HSDPA 3GPP release 8 Setup Configuration:

- a. The EUT was connected to Base Station referred to the Setup Configuration below
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
 - i. Set RMC 12.2Kbps + HSDPA mode.
 - ii. Set Cell Power = -25 dBm
 - iii. Set HS-DSCH Configuration Type to FRC (H-set 12, QPSK)
 - iv. Select HSDPA Uplink Parameters
 - v. Set Gain Factors (β_c and β_d) and parameters were set according to each Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
 - a). Subtest 1: $\beta_c/\beta_d=2/15$
 - b). Subtest 2: $\beta_c/\beta_d=12/15$
 - c). Subtest 3: $\beta_c/\beta_d=15/8$
 - d). Subtest 4: $\beta_c/\beta_d=15/4$
 - vi. Set Delta ACK, Delta NACK and Delta CQI = 8
 - vii. Set Ack-Nack Repetition Factor to 3
 - viii. Set CQI Feedback Cycle (k) to 4 ms
 - ix. Set CQI Repetition Factor to 2
 - x. Power Ctrl Mode = All Up bits
- d. The transmitted maximum output power was recorded.

The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification. A summary of these settings are illustrated below:

C.8.1.12 Fixed Reference Channel Definition H-Set 12
Table C.8.1.12: Fixed Reference Channel H-Set 12

Parameter	Unit	Value
Nominal Avg. Inf. Bit Rate	kbps	60
Inter-TTI Distance	TTI's	1
Number of HARQ Processes	Processes	6
Information Bit Payload (N_{INF})	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK
Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table.		
Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.		

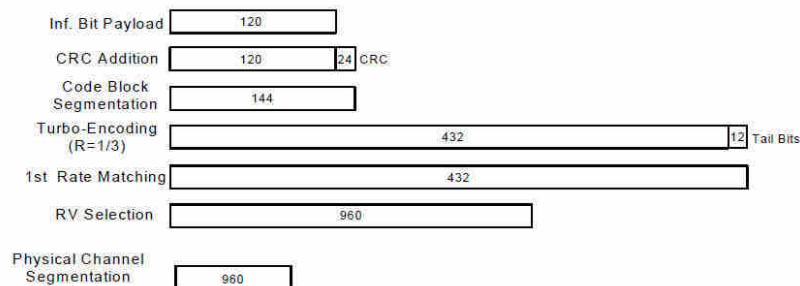


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)
Setup Configuration

HSPA+ 3GPP release 7 (uplink category 7) 16QAM, Setup Configuration:

1. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
2. The RF path losses were compensated into the measurements.
3. A call was established between EUT and Base Station with following setting * :
 - i. Call Configs = 5.2E:HSPA+:UL with 16QAM
 - ii. Set the Gain Factors (β_c and β_d) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.4, quoted from the TS 34.121-1 s5.2E
 - iii. Set Channel Params
 - iv. Set Cell Power = -86 dBm
 - v. Set Channel Type = HSPA
 - vi. Set UE Target Power = 21 dBm
 - vii. Power Ctrl Mode= All Up Bits
 - viii. Set Manual Uplink DPCH Bc/Bd = Manual
 - ix. Set Manual Uplink DPCH Bc and Bd=15,15(for 34.121-1 v8.10.0 table C11.1.4 sub-test 1)
 - x. Set HSPA Conn DL Channel Levels
 - xi. Set HS-SCCH Configs
 - xii. Set RB Test Mode Setup
 - xiii. Set Common HSUPA Parameters
 - xiv. Set Serving Grant
 - xv. Confirm that E-TFCI is equal to the target E-TFCI of 105 for sub-test 1, and other subtest's E-TFCI
4. The transmitted maximum output power was recorded.

Table C.11.1.4: β values for transmitter characteristics tests with HS-DPCCH and E-DCH with 16QAM

Sub-test	β_c (Note 3)	β_d	β_{HS} (Note 1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	β_{ed1} : 30/15 β_{ed2} : 30/15	β_{ed3} : 24/15 β_{ed4} : 24/15	3.5	2.5	14	105	105

Note 1: Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{rs} = 30/15 * \beta_c$.

Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).

Note 3: DPDCH is not configured, therefore the β_c is set to 1 and $\beta_d = 0$ by default.

Note 4: β_{ed} can not be set directly; it is set by Absolute Grant Value.

Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signaled to use the extrapolation algorithm.

Setup Configuration

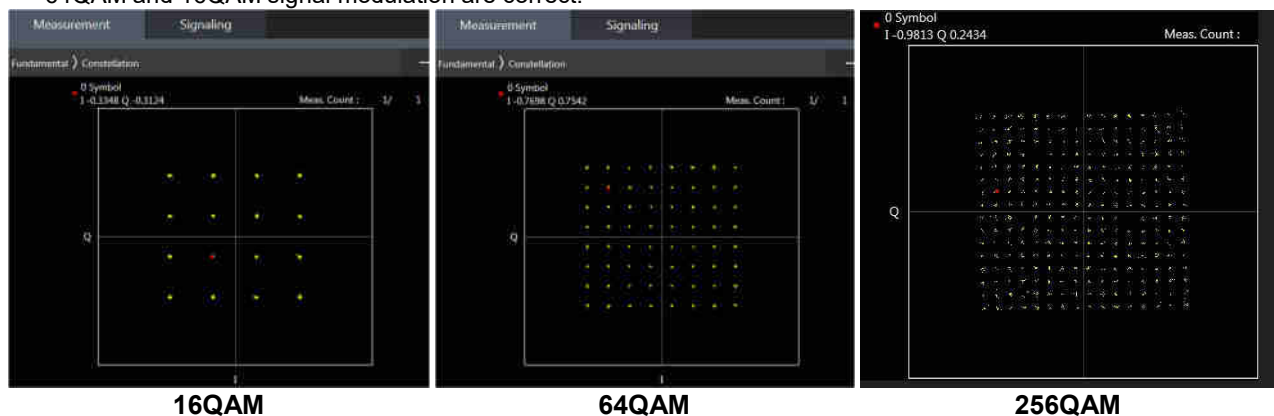
**<WCDMA Conducted Power>****General Note:**

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA / HSPA+ is $\leq \frac{1}{4}$ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA / HSPA+ to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA / DC-HSDPA / HSPA+) are less than $\frac{1}{4}$ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+.

<LTE Conducted Power>

General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B4 / B5 / B12 / B17 / B26 / B38 / B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
9. LTE B2 /B4 /B5 / B17 / B38 SAR test was covered by B25 / B66 / B26 / B12 / B41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. the maximum output power, including tolerance, for the smaller band is $\leq$ the larger band to qualify for the SAR test exclusion
 - b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band
10. According to May 2017 TCB workshop, for 16QAM and 64QAM, 256QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 256QAM, 64QAM and 16QAM signal modulation are correct.



<TDD LTE SAR Measurement>

TDD LTE configuration setup for SAR measurement

SAR was tested with a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by 3GPP.

- 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations
- “special subframe S” contains both uplink and downlink transmissions, it has been taken into consideration to determine the transmission duty factor according to the worst case uplink and downlink cyclic prefix requirements for UpPTS
- Establishing connections with base station simulators ensure a consistent means for testing SAR and recommended for evaluating SAR. The Anritsu MT8820C (firmware: #22.52#004) was used for LTE output power measurements and SAR testing.

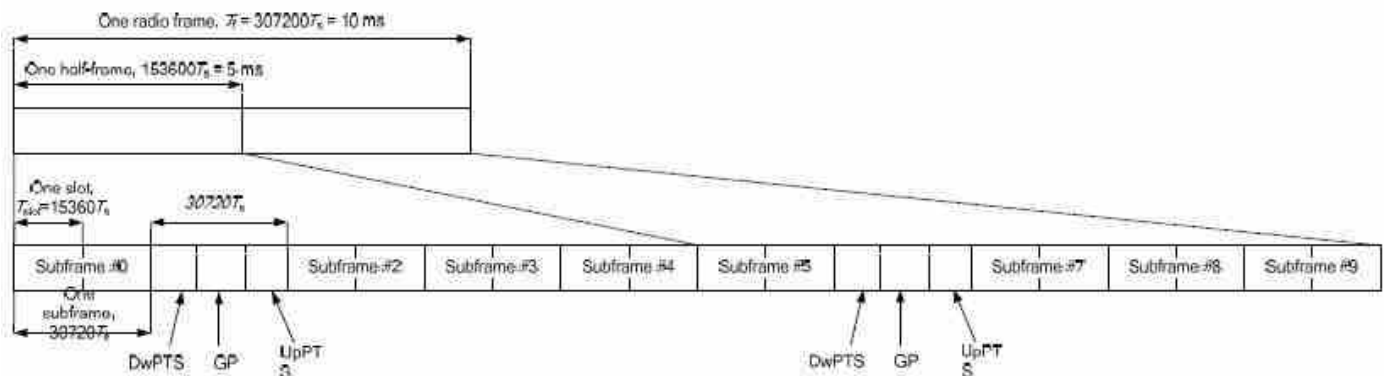


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

Table 4.2-2: Uplink-downlink configurations.

Uplink-downlink configuration	Downlink-to-Uplink Switch-point periodicity	Subframe number									
		0	1	2	3	4	5	6	7	8	9
0	5 ms	D	S	U	U	U	D	S	U	U	U
1	5 ms	D	S	U	U	D	D	S	U	U	D
2	5 ms	D	S	U	D	D	D	S	U	D	D
3	10 ms	D	S	U	U	U	D	D	D	D	D
4	10 ms	D	S	U	U	D	D	D	D	D	D
5	10 ms	D	S	U	D	D	D	D	D	D	D
6	5 ms	D	S	U	U	U	D	S	U	U	D

Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS).

Special subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	$6592 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$	$7680 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$
1	$19760 \cdot T_s$			$20480 \cdot T_s$		
2	$21952 \cdot T_s$			$23040 \cdot T_s$		
3	$24144 \cdot T_s$			$25600 \cdot T_s$		
4	$26336 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$			$20480 \cdot T_s$		
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			$12800 \cdot T_s$		
8	$24144 \cdot T_s$			-	-	-
9	$13168 \cdot T_s$			-	-	-

Special subframe (30720·T _s): Normal cyclic prefix in downlink (UpPTS)			
	Special subframe configuration	Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
Uplink duty factor in one special subframe	0~4	7.13%	8.33%
	5~9	14.3%	16.7%

Special subframe(30720·T _s): Extended cyclic prefix in downlink (UpPTS)			
	Special subframe configuration	Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
Uplink duty factor in one special subframe	0~3	7.13%	8.33%
	4~7	14.3%	16.7%

The highest duty factor is resulted from:

For LTE TDD Power class 2

- Uplink-downlink configuration: 1. In a half-frame consisted of 5 subframes, uplink operation is in 2 uplink subframes and 1 special subframe.
- special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink
- for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is: $(2+0.167)/5 = 43.3\%$
- for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is: $(2+0.143)/5 = 42.9\%$
- For TDD LTE SAR measurement, the duty cycle 1:2.33 (42.9 %) was used perform testing and considering the theoretical duty cycle of 43.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 42.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix $43.3\%/42.9\% = 1.009$ is applied to scale-up the measured SAR result. The scaled TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.

For LTE TDD Power class 3

- Uplink-downlink configuration: 0. In a half-frame consisted of 5 subframes, uplink operation is in 3 uplink subframes and 1 special subframe.
- special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink
- for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is: $(3+0.167)/5 = 63.3\%$
- for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is: $(3+0.143)/5 = 62.9\%$
- For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix $63.3\%/62.9\% = 1.006$ is applied to scale-up the measured SAR result. The scaled TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.

The device can adjust uplink/downlink configuration automatically according to the transmitting power class level, as followings:

LTE TDD Band	Power Class level	support uplink/downlink configuration
LTE Band 41	> 23	1,2,3,4,5
	=23	0,1,2,3,4,5,6
	< 23	0,1,2,3,4,5,6



<LTE Carrier Aggregation>

General Note:

5. This device supports Carrier Aggregation on downlink for inter and intra band. For the device supports bands and bandwidths and configurations are provided as follow table was according to 3GPP.
6. In applying the existing power measurement procedures of KDB 941225 D05A for DL CA SAR test exclusion, only the subset with the largest number of combinations of frequency bands and CCs in each row need combination, and for this device that all the configurations were choose to power measurement.
7. The gray color table is covered by other combinations and no need to verify power.

2CC Downlink Carrier Aggregation				3CC Downlink Carrier Aggregation				4CC Downlink Carrier Aggregation			
Number	Combination	4X4 MIMO	Covered by Measurement Superset	Number	Combination	4X4 MIMO	Covered by Measurement Superset	Number	Combination	4X4 MIMO	Covered by Measurement Superset
1	CA_12A-30A	30A	3CC-1	1	CA_12A-30A-66A	30A-66A, 66A, 30A	4CC-1	1	CA_12A-30A-66A-66A	66A, 30A	
2	CA_12A-66A	66A	3CC-2	2	CA_12A-66A-66A	66A-66A, 66A	4CC-1	2	CA_12B-66A-66A	66A	
3	CA_12B		3CC-4	3	CA_12A-66C	66C, 66A	4CC-12	3	CA_13A-48A-48C	48A	
4	CA_13A-48A	48A	3CC-5	4	CA_12B-66A	66A	4CC-2	4	CA_13A-48A-66B	48A	
5	CA_13A-66A	66A	3CC-8	5	CA_13A-48A-48A	48A-48A, 48A		5	CA_13A-48A-66C	48A	
6	CA_14A-30A	30A	3CC-11	6	CA_13A-48A-66A	48A-66A, 66A, 48A		6	CA_13A-48C-66A	66A	
7	CA_14A-66A	66A	3CC-12	7	CA_13A-48C	48C, 48A	4CC-6	7	CA_13A-48D		
8	CA_25A-25A	25A-25A, 25A	3CC-13	8	CA_13A-66A-66A	66A-66A, 66A	4CC-15	8	CA_13A-66A-66B	66A	
9	CA_25A-26A	25A	3CC-13	9	CA_13A-66B	66B, 66A	4CC-8	9	CA_14A-66A-66A-66A	66A	
10	CA_25A-41A	25A-41A, 41A, 25A		10	CA_13A-66C	66C, 66A	4CC-5	10	CA_25A-41D	25A	
11	CA_25A-66A	25A-66A, 66A, 25A	3CC-14	11	CA_14A-30A-66A	30A-66A, 66A, 30A		11	CA_2A-12A-66A-66A	66A, 2A	
12	CA_26A-41A	41A		12	CA_14A-66A-66A	66A-66A, 66A	4CC-9	12	CA_2A-12A-66C	2A	
13	CA_2A-12A	2A	3CC-17	13	CA_25A-25A-26A	25A-25A, 25A		13	CA_2A-12B-66A	66A, 2A	
14	CA_2A-13A	2A	3CC-20	14	CA_25A-25A-66A	25A-66A, 25A-25A, 66A, 25A	4CC-88	14	CA_2A-13A-48C	2A	
15	CA_2A-14A	2A	3CC-22	15	CA_25A-41C	41C, 41A, 25A		15	CA_2A-13A-66A-66A	66A, 2A	
16	CA_2A-17A	2A		16	CA_26A-41C	41C, 41A		16	CA_2A-13A-66B	2A	
17	CA_2A-2A	2A-2A, 2A	3CC-24	17	CA_2A-12A-30A	2A-30A, 30A, 2A		17	CA_2A-13A-66C	2A	
18	CA_2A-30A	2A-30A, 30A, 2A	3CC-22	18	CA_2A-12A-66A	2A-66A, 66A, 2A	4CC-11	18	CA_2A-2A-12A-66A	66A, 2A	
19	CA_2A-48A	2A-48A, 48A, 2A	3CC-20	19	CA_2A-12B	2A	4CC-13	19	CA_2A-2A-12B	2A	
20	CA_2A-4A	2A-4A, 4A, 2A	3CC-37	20	CA_2A-13A-48A	2A-48A, 48A, 2A		20	CA_2A-2A-13A-66A	66A, 2A	
21	CA_2A-5A	2A	3CC-44	21	CA_2A-13A-66A	2A-66A, 66A, 2A	4CC-15	21	CA_2A-2A-14A-30A	30A, 2A	
22	CA_2A-66A	2A-66A, 66A, 2A	3CC-49	22	CA_2A-14A-30A	2A-30A, 30A, 2A	4CC-21	22	CA_2A-2A-4A-12A	4A, 2A	
23	CA_2A-71A	2A	3CC-31	23	CA_2A-14A-66A	2A-66A, 66A, 2A		23	CA_2A-2A-4A-4A	4A, 2A	
24	CA_2A-7A	2A-7A, 7A, 2A	3CC-32	24	CA_2A-2A-12A	2A-2A, 2A	4CC-22	24	CA_2A-2A-4A-5A	4A, 2A	
25	CA_2C	2C, 2A	3CC-58	25	CA_2A-2A-13A	2A-2A, 2A	4CC-20	25	CA_2A-2A-4A-71A	4A, 2A	
26	CA_30A-66A	30A-66A, 66A, 30A	3CC-33	26	CA_2A-2A-14A	2A-2A, 2A	4CC-21	26	CA_2A-2A-5A-66A	66A, 2A	
27	CA_41A-41A	41A-41A, 41A		27	CA_2A-2A-30A	2A-30A, 2A-2A, 30A, 2A	4CC-21	27	CA_2A-2A-5B	2A	
28	CA_41A-48A	41A-48A, 48A, 41A		28	CA_2A-2A-4A	2A-4A, 2A-2A, 4A, 2A	4CC-22	28	CA_2A-2A-66A-66A	66A, 2A	
29	CA_41C	41C, 41A	3CC-61	29	CA_2A-2A-5A	2A-2A, 2A	4CC-24	29	CA_2A-2A-66A-71A	66A, 2A	
30	CA_48A-48A	48A-48A, 48A	3CC-34	30	CA_2A-2A-66A	2A-66A, 2A-2A, 66A, 2A	4CC-26	30	CA_2A-2A-66B	2A	
31	CA_48A-66A	48A-66A, 66A, 48A	3CC-35	31	CA_2A-2A-71A	2A-2A, 2A	4CC-25	31	CA_2A-2A-66C	2A	
32	CA_48A-71A	48A	3CC-64	32	CA_2A-2A-7A	2A-7A, 2A-2A, 7A, 2A	4CC-32	32	CA_2A-2A-7A-12A	7A, 2A	
33	CA_48B	48B, 48A		33	CA_2A-30A-66A	30A-66A, 2A-66A, 2A-30A, 66A, 30A, 2A		33	CA_2A-2A-7A-66A	7A, 66A, 2A	
34	CA_48C	48C, 48A	3CC-36	34	CA_2A-48A-48A	48A-48A, 2A-48A, 48A, 2A		34	CA_2A-48A-48C	48A, 2A	
35	CA_4A-12A	4A	3CC-37	35	CA_2A-48A-66A	48A-66A, 2A-66A, 2A-48A, 66A, 48A, 2A	4CC-35	35	CA_2A-48A-66A-66A	66A, 48A, 2A	
36	CA_4A-13A	4A	3CC-38	36	CA_2A-48C	48C, 48A, 2A	4CC-36	36	CA_2A-48C-66A	66A, 2A	
37	CA_4A-17A	4A		37	CA_2A-4A-12A	2A-4A, 4A, 2A	4CC-22	37	CA_2A-48D	2A	
38	CA_4A-30A	4A-30A, 4A, 30A	3CC-39	38	CA_2A-4A-13A	2A-4A, 4A, 2A		38	CA_2A-4A-12B	4A, 2A	
39	CA_4A-48A	4A-48A, 4A, 48A		39	CA_2A-4A-30A	4A-30A, 2A-4A, 2A-30A, 4A, 30A, 2A		39	CA_2A-4A-4A-12A	4A, 2A	
40	CA_4A-4A	4A-4A, 4A	3CC-40	40	CA_2A-4A-4A	4A-4A, 2A-4A, 4A, 2A	4CC-39	40	CA_2A-4A-4A-5A	4A, 2A	
41	CA_4A-5A	4A	3CC-41	41	CA_2A-4A-5A	2A-4A, 4A, 2A	4CC-40	41	CA_2A-4A-5B	4A, 2A	
42	CA_4A-71A	4A	3CC-42	42	CA_2A-4A-71A	2A-4A, 4A, 2A	4CC-25	42	CA_2A-4A-7A-7A	7A, 4A, 2A	



FCC SAR Test Report

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43	CA_4A-7A	4A-7A, 7A, 4A	3CC-43	43	CA_2A-4A-7A	4A-7A, 2A-7A, 2A-4A, 7A, 4A, 2A	4CC-42	43	CA_2A-4A-7C	4A, 2A	
44	CA_5A-30A	30A	3CC-44	44	CA_2A-5A-30A	2A-30A, 30A, 2A		44	CA_2A-5A-48C	2A	
45	CA_5A-41A	41A		45	CA_2A-5A-48A	2A-48A, 48A, 2A		45	CA_2A-5A-5A-66A	66A, 2A	
46	CA_5A-48A	48A	3CC-45	46	CA_2A-5A-66A	2A-66A, 66A, 2A	4CC-45	46	CA_2A-5A-66A-66A	66A, 2A	
47	CA_5A-5A		3CC-88	47	CA_2A-5A-7A	2A-7A, 7A, 2A	4CC-49	47	CA_2A-5A-66B	2A	
48	CA_5A-66A	66A	3CC-46	48	CA_2A-5B	2A	4CC-41	48	CA_2A-5A-66C	2A	
49	CA_5A-7A	7A	3CC-47	49	CA_2A-66A-66A	66A-66A, 2A-66A, 66A, 2A	4CC-51	49	CA_2A-5A-7A-7A	7A, 2A	
50	CA_5B		3CC-48	50	CA_2A-66A-71A	2A-66A, 66A, 2A	4CC-52	50	CA_2A-5B-66A	66A, 2A	
51	CA_66A-66A	66A-66A, 66A	3CC-49	51	CA_2A-66B	66B, 66A, 2A	4CC-47	51	CA_2A-66A-66A-66A	66A, 2A	
52	CA_66A-71A	66A	3CC-50	52	CA_2A-66C	66C, 66A, 2A	4CC-48	52	CA_2A-66A-66A-71A	66A, 2A	
53	CA_66B	66B, 66A	3CC-51	53	CA_2A-7A-12A	2A-7A, 7A, 2A	4CC-32	53	CA_2A-66A-66B	66A, 2A	
54	CA_66C	66C, 66A	3CC-52	54	CA_2A-7A-13A	2A-7A, 7A, 2A	4CC-56	54	CA_2A-66C-71A	2A	
55	CA_7A-12A	7A	3CC-53	55	CA_2A-7A-66A	7A-66A, 2A-7A, 2A-66A, 7A, 66A, 2A	4CC-55	55	CA_2A-7A-66A-66A	7A, 66A, 2A	
56	CA_7A-13A	7A	3CC-54	56	CA_2A-7A-7A	7A-7A, 2A-7A, 7A, 2A	4CC-56	56	CA_2A-7A-7A-13A	7A, 2A	
57	CA_7A-25A	7A-25A, 7A, 25A	3CC-104	57	CA_2A-7C	7C, 7A, 2A	4CC-58	57	CA_2A-7A-7A-66A	7A, 66A, 2A	
58	CA_7A-66A	7A-66A, 7A, 66A	3CC-55	58	CA_2C-12A	2C, 2A		58	CA_2A-7C-13A	2A	
59	CA_7A-7A	7A-7A, 7A	3CC-56	59	CA_2C-66A	2C, 66A, 2A	4CC-60	59	CA_2A-7C-66A	66A, 2A	
60	CA_7B	7B, 7A		60	CA_30A-66A-66A	66A-66A, 30A-66A, 66A, 30A	4CC-1	60	CA_2C-66A-66A	66A	
61	CA_7C	7C, 7A	3CC-57	61	CA_41A-41C	41C, 41A		61	CA_48A-48A-66A-66A	66A, 48A	
				62	CA_41D		4CC-10	62	CA_48A-48A-66B	48A	
				63	CA_48A-48A-66A	48A-66A, 48A-48A, 66A, 48A	4CC-61	63	CA_48A-48A-66C	48A	
				64	CA_48A-48A-71A	48A-48A, 48A		64	CA_48A-48C-66A	66A, 48A	
				65	CA_48A-48C	48C, 48A	4CC-64	65	CA_48A-48D	48A	
				66	CA_48A-66A-66A	66A-66A, 48A-66A, 66A, 48A	4CC-61	66	CA_48C-48C		
				67	CA_48A-66B	66B, 66A, 48A	4CC-62	67	CA_48C-66A-66A	66A	
				68	CA_48A-66C	66C, 66A, 48A	4CC-63	68	CA_48C-66B		
				69	CA_48C-66A	48C, 66A, 48A	4CC-64	69	CA_48C-66C		
				70	CA_48C-71A	48C, 48A		70	CA_48D-66A	66A	
				71	CA_48D		4CC-65	71	CA_48E		
				72	CA_4A-12A-30A	4A-30A, 4A, 30A		72	CA_4A-48D	4A	
				73	CA_4A-12B	4A	4CC-73	73	CA_4A-4A-12B	4A	
				74	CA_4A-48C	48C, 4A, 48A		74	CA_4A-4A-5B	4A	
				75	CA_4A-4A-12A	4A-4A, 4A	4CC-39	75	CA_5A-30A-66A-66A	66A, 30A	
				76	CA_4A-4A-13A	4A-4A, 4A		76	CA_5A-48A-66A-66A	66A, 48A	
				77	CA_4A-4A-5A	4A-4A, 4A	4CC-40	77	CA_5A-48C-66A	66A	
				78	CA_4A-4A-71A	4A-4A, 4A		78	CA_5A-48D		
				79	CA_4A-4A-7A	4A-7A, 4A-4A, 7A, 4A		79	CA_5A-5A-66A-66A	66A	
				80	CA_4A-5A-30A	4A-30A, 4A, 30A		80	CA_5A-5A-66B		
				81	CA_4A-5B	4A	4CC-74	81	CA_5A-5A-66C		
				82	CA_4A-7A-12A	4A-7A, 7A, 4A		82	CA_5A-7A-66A-66A	7A, 66A	
				83	CA_4A-7A-7A	7A-7A, 4A-7A, 7A, 4A	4CC-42	83	CA_5A-7A-7A-66A	7A, 66A	
				84	CA_4A-7C	7C, 7A, 4A	4CC-43	84	CA_5A-7C-66A	66A	
				85	CA_5A-30A-66A	30A-66A, 66A, 30A	4CC-75	85	CA_5B-66A-66A	66A	
				86	CA_5A-48A-66A	48A-66A, 66A, 48A	4CC-76	86	CA_5B-66B		
				87	CA_5A-48C	48C, 48A	4CC-77	87	CA_5B-66C		
				88	CA_5A-5A-66A	66A	4CC-79	88	CA_7A-25A-25A-66A	7A, 66A, 25A	
				89	CA_5A-66A-66A	66A-66A, 66A	4CC-79	89	CA_7A-7A-13A-66A	7A, 66A	
				90	CA_5A-66B	66B, 66A	4CC-80	90	CA_7A-7A-25A-25A	7A, 25A	
				91	CA_5A-66C	66C, 66A	4CC-81	91	CA_7A-7A-25A-66A	7A, 66A, 25A	
				92	CA_5A-7A-66A	7A-66A, 7A, 66A	4CC-82	92	CA_7A-7A-66A-66A	7A, 66A	
				93	CA_5A-7A-7A	7A-7A, 7A	4CC-83	93	CA_7C-13A-66A	66A	
				94	CA_5A-7C	7C, 7A	4CC-84	94	CA_7C-66A-66A	66A	
				95	CA_5B-30A	30A					
				96	CA_5B-66A	66A	4CC-85				



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				97	CA_66A-66A-66A	66A-66A, 66A	4CC-9				
				98	CA_66A-66A-71A	66A-66A, 66A	4CC-52				
				99	CA_66A-66B	66B, 66A	4CC-8				
				100	CA_66A-66C	66C, 66A					
				101	CA_66C-71A	66C, 66A	4CC-54				
				102	CA_7A-12A-66A	7A-66A, 7A, 66A					
				103	CA_7A-13A-66A	7A-66A, 7A, 66A	4CC-89				
				104	CA_7A-25A-25A	7A-25A, 25A-25A, 7A, 25A	4CC-90				
				105	CA_7A-25A-66A	7A-66A, 7A-25A, 25A-66A, 7A, 66A, 25A	4CC-91				
				106	CA_7A-66A-66A	7A-66A, 66A-66A, 7A, 66A	4CC-92				
				107	CA_7A-7A-13A	7A-7A, 7A	4CC-89				
				108	CA_7A-7A-25A	7A-7A, 7A-25A, 7A, 25A	4CC-91				
				109	CA_7A-7A-66A	7A-7A, 7A-66A, 7A, 66A	4CC-92				
				110	CA_7C-13A	7C, 7A	4CC-93				
				111	CA_7C-66A	7C, 7A, 66A	4CC-94				

LTE Carrier Aggregation Conducted Power (Downlink)

- i. According to KDB941225 D05A v01r02, Uplink maximum output power measurement with downlink carrier aggregation active should be measured, using the highest output channel measured without downlink carrier aggregation, to confirm that uplink maximum output power with downlink carrier aggregation active remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output measured without downlink carrier aggregation active.
- ii. Uplink maximum output power with downlink carrier aggregation active does not show more than ¼ dB higher than the maximum output power without downlink carrier aggregation active, therefore SAR evaluation with downlink carrier aggregation active can be excluded.
- iii. The device supports downlink four carrier aggregation. For power measurement were control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.
- iv. Selected highest measured power when downlink carrier aggregation is inactive for conducted power comparison with downlink carrier aggregation is active, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.
- v. For inter-band CA, the SCC selected highest bandwidth and near the middle of its transmission band. For SCC DL RB size and offset will base on the PCC corresponding RB allocation.
- vi. For non-contiguous intra-band CA, the SCC selected to provide maximum separation from the PCC and must remain fully within the downlink transmission band.
- vii. For Intra-band, contiguous CA, the downlink channels selected to perform the uplink power measurement must satisfy 3GPP channel spacing (5.4.1A of 3GPP TS 36.521 or equivalent) and channel bandwidth (5.4.2A) requirements.

$$\text{Nominal channel spacing} = \left\lceil \frac{BW_{\text{Channel}(1)} + BW_{\text{Channel}(2)} - 0.1|BW_{\text{Channel}(1)} - BW_{\text{Channel}(2)}|}{0.6} \right\rceil 0.3 \text{ [MHz]}$$

LTE 4x4 MIMO (Downlink)

This device supports downlink 4x4 MIMO operations for LTE Band 2/4/7/25/30/66/48/41 only. Uplink transmission is limited to a single output stream. Power measurements were performed with downlink 4x4 MIMO active for the configuration with highest measured maximum conducted power with 4x4 downlink MIMO inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band.

Per FCC Guidance, SAR for downlink 4x4 MIMO was not needed since the maximum average output power in 4x4 downlink MIMO mode was not > 0.25 dB higher than the maximum output power with downlink 4x4 MIMO inactive. When carrier aggregation is applicable, power measurements were performed with the downlink carrier aggregation and 4x4 DL MIMO active for the configuration with highest measured maximum conducted power with downlink carrier aggregation inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band.

4X4 MIMO	Band
	LTE Band 2/4/7/25/30/66/48/41

LTE Carrier Aggregation Conducted Power (Uplink)

LTE Uplink CA	2CC Uplink Carrier Aggregation			
Intra-CA	Main Antenna Tx	ASDiv Tx	ASDiv Tx	ASDiv Tx
CA_41C	ANT 9	ANT 1	ANT 2	ANT 6
CA_48C	ANT 4	ANT 7	ANT 10	ANT 8
CA_5B	ANT0	ANT1	-	-
CA_66B	ANT0	ANT1	-	-
CA_66C	ANT0	ANT1	-	-

<Intra-band>
General Note:

- The device supports intra-band uplink carrier aggregation for LTE B5/41/48/66 with a maximum of two uplink component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre 3GPP requirement.
- The device supports uplink carrier aggregation with a maximum of two uplink component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre the 3GPP requirement.
- According Nov. 2017 TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.
- Additional SAR measurement for LTE UL CA with other DL CA combinations active were not required since the maximum output power for this configuration was not > 0.25dB higher than the maximum output power for UL CA active.
- LTE CA_66B, test was covered by CA_66C, therefore, SAR was only assessed for CA_66C.

<Inter-band uplink carrier aggregation consideration>

LTE Uplink CA	2CC Uplink Carrier Aggregation	
Inter-band	Main Antenna Tx	ASD _{div} Tx
CA_12A-30A	ANT 1+ANT 9	ANT 9+ANT 1
CA_12A-66A	ANT 0+ANT 1	ANT 1+ANT 0
CA_13A-66A	ANT 0+ANT 1	ANT 1+ANT 0
CA_14A-30A	ANT 1+ANT 9	ANT 9+ANT 1
CA_14A-66A	ANT 0+ANT 1	ANT 1+ANT 0
CA_2A-12A	ANT 0+ANT 1	ANT 1+ANT 0
CA_2A-13A	ANT 0+ANT 1	ANT 1+ANT 0
CA_2A-14A	ANT 0+ANT 1	ANT 1+ANT 0
CA_2A-4A	ANT 0+ANT 1	ANT 1+ANT 0
CA_2A-5A	ANT 0+ANT 1	ANT 1+ANT 0
CA_2A-66A	ANT 0+ANT 1	ANT 1+ANT 0
CA_4A-12A	ANT 0+ANT 1	ANT 1+ANT 0
CA_4A-13A	ANT 0+ANT 1	ANT 1+ANT 0
CA_4A-5A	ANT 0+ANT 1	ANT 1+ANT 0
CA_5A-30A	ANT 1+ANT 9	ANT 9+ANT 1
CA_5A-66A	ANT 0+ANT 1	ANT 1+ANT 0

General Note:

1. The single carrier of inter band CA uplink power level is the same as Non-CA standalone LTE power level.
2. The product implements Qualcomm Smart Transmit feature which controls the instantaneous transmitting power for WWAN transmitter to ensure the product in compliance with FCC RF exposure limit over a defined time window, for SAR (transmit frequency $\leq 6\text{GHz}$). To control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement.
3. For LTE inter-band CA mode, Qualcomm Smart Transmit algorithm in WWAN adds directly the time-averaged RF exposure between two LTE bands. Smart Transmit algorithm controls the total RF exposure base on LTE inter CA bands to not exceed FCC limit. In Part 1 Report, simultaneous transmission compliance was evaluated with other Radios (WLAN or BT) using standalone LTE SAR mode.

5G NR Output Power (Unit: dBm)

General Note:

1. 5G NR n2/n5/n7/n12/n25/n66/n71/n41/n77/n78 is NSA mode, n2/n5/n7/n12/n14/n25/n26/n30/n66/n70/n71/n41/n48 /n77/n78 is SA mode,
2. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
 - a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not ½ dB higher than the same configuration in DFT-s QPSK and the reported SAR for the DFT-s QPSK configuration is ≤ 1.45 W/kg; CP-OFDM testing is not required.
 - b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, for 16QAM/64QAM/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the 16QAM/64QAM/256QAM and smaller bandwidth output power will not ½ dB higher than the same configuration in the largest supported bandwidth.
 - c. SAR testing start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel
 - d. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
 - e. QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested
 - f. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK /16QAM/64QAM/256QAM SAR testing are not required.
 - g. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
3. For 5G NR bands test, using FTM (Factory Test Mode) with default 100% duty cycle transmission to perform SAR testing.
4. NSA and SA mode should perform SAR separately. For the maximum power of NSA mode is the same as SA total power level, so SA SAR can represent NSA mode SAR.
5. 5G NR NSA mode, the power level is the same as 5G NR SA mode, so 5G NR NSA mode and SA mode power table only show one time.
6. 5G NR supports CP-OFDM and DFT-s-OFDM modulation, for DFT-s-OFDM power is higher than CP-OFDM, so only show DFT-s-OFDM power table and chose DFT-s-OFDM to perform SAR testing.
7. For DFT-s-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for the CP-OFDM mode will not higher than DFT-s-OFDM mode, therefore, CP-OFDM measurement is unnecessary.
8. 5G NR n41/77/n78 supports HPUE, HPUE power and SAR testing performed separately.
9. 5G NR n41/77/n78 HPUE with higher power, 5G NR n41/77/n78 HPUE SAR can represent power class 3 level SAR.
10. 5G NR n41/n77/n78/n48 supports UL MIMO.

<3GPP 38.101 MPR for EN-DC>
Table 6.2.2-1 Maximum power reduction (MPR) for power class 3

Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	Pi/2 BPSK	$\leq 3.5^1$	$\leq 1.2^1$	$\leq 0.2^1$
		$\leq 0.5^2$	$\leq 0.5^2$	0 ²
	QPSK	≤ 1		0
	16 QAM	≤ 2		≤ 1
	64 QAM	≤ 2.5		
CP-OFDM	256 QAM	≤ 4.5		
	QPSK	≤ 3		≤ 1.5
	16 QAM	≤ 3		≤ 2
	64 QAM	≤ 3.5		
	256 QAM	≤ 6.5		

NOTE 1: Applicable for UE operating in TDD mode with Pi/2 BPSK modulation and UE indicates support for UE capability powerBoosting-pi2BPSK and if the IE powerBoostPi2BPSK is set to 1 and 40 % or less slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79. The reference power of 0 dB MPR is 26 dBm.

NOTE 2: Applicable for UE operating in FDD mode, or in TDD mode in bands other than n40, n41, n77, n78 and n79 with Pi/2 BPSK modulation and if the IE powerBoostPi2BPSK is set to 0 and if more than 40 % of slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79.

Table 6.2.2-2 Maximum power reduction (MPR) for power class 2

Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	Pi/2 BPSK	≤ 3.5	≤ 0.5	0
	QPSK	≤ 3.5	≤ 1	0
	16 QAM	≤ 3.5	≤ 2	≤ 1
	64 QAM	≤ 3.5	≤ 2.5	
	256 QAM	≤ 4.5		
CP-OFDM	QPSK	≤ 3.5	≤ 3	≤ 1.5
	16 QAM	≤ 3.5	≤ 3	≤ 2
	64 QAM	≤ 3.5		
	256 QAM	≤ 6.5		

<EN-DC combination>

ENDC	Main Antenna Tx		ASDdiv Tx		ASDdiv Tx		ASDdiv Tx		ASDdiv Tx		ASDdiv Tx		ASDdiv Tx		ASDdiv Tx	
	LTE TX	NR TX	LTE TX	NR TX	LTE TX	NR TX	LTE TX	NR TX	LTE TX	NR TX	LTE TX	NR TX	LTE TX	NR TX	LTE TX	NR TX
DC_12A_n2A	ANT 0	ANT 1	ANT 1	ANT 0												
DC_13A_n2A	ANT 0	ANT 1	ANT 1	ANT 0												
DC_14A_n2A	ANT 0	ANT 1	ANT 1	ANT 0												
DC_30A_n2A	ANT 9	ANT 1	ANT 1	ANT 0												
DC_48A_n2A	ANT 4	ANT 1	ANT 7	ANT 1	ANT 10	ANT 1	ANT 8	ANT 1	ANT 4	ANT 0	ANT 7	ANT 0	ANT 10	ANT 0	ANT 8	ANT 0
DC_4A_n2A	ANT 0	ANT 1	ANT 1	ANT 0												
DC_5A_n2A	ANT 0	ANT 1	ANT 1	ANT 0												
DC_66A_n2A	ANT 0	ANT 1	ANT 1	ANT 0												
DC_71A_n2A	ANT 0	ANT 1	ANT 1	ANT 0												
DC_7A_n2A	ANT 9	ANT 1	ANT 1	ANT 0												
DC_2A_n5A	ANT 0	ANT 1	ANT 1	ANT 0												
DC_30A_n5A	ANT 9	ANT 1	ANT 1	ANT 0												
DC_48A_n5A	ANT 4	ANT 1	ANT 7	ANT 1	ANT 10	ANT 1	ANT 8	ANT 1	ANT 4	ANT 0	ANT 7	ANT 0	ANT 10	ANT 0	ANT 8	ANT 0
DC_66A_n5A	ANT 0	ANT 1	ANT 1	ANT 0												
DC_7A_n5A	ANT 9	ANT 1	ANT 1	ANT 0												
DC_12A_n7A	ANT 1	ANT 9	ANT 0	ANT 1												
DC_2A_n7A	ANT 1	ANT 9	ANT 0	ANT 1												
DC_4A_n7A	ANT 1	ANT 9	ANT 0	ANT 1												
DC_5A_n7A	ANT 1	ANT 9	ANT 0	ANT 1												
DC_66A_n7A	ANT 1	ANT 9	ANT 0	ANT 1												
DC_2A_n12A	ANT 0	ANT 1	ANT 1	ANT 0												
DC_66A_n12A	ANT 0	ANT 1	ANT 1	ANT 0												
DC_12A_n25A	ANT 0	ANT 1	ANT 1	ANT 0												
DC_26A_n25A	ANT 0	ANT 1	ANT 1	ANT 0												
DC_66A_n25A	ANT 0	ANT 1	ANT 1	ANT 0												
DC_7A_n25A	ANT 9	ANT 1	ANT 1	ANT 0												
DC_12A_n41A	ANT 1	ANT 9	ANT 0	ANT 1	ANT 1	ANT 6	ANT 1	ANT 2	ANT 0	ANT 6	ANT 0	ANT 2				



DC_25A_n41A	ANT 1	ANT 9	ANT 0	ANT 1	ANT 1	ANT 10	ANT 1	ANT 2	ANT 0	ANT 10	ANT 0	ANT 2				
DC_26A_n41A	ANT 1	ANT 9	ANT 0	ANT 1	ANT 1	ANT 6	ANT 1	ANT 2	ANT 0	ANT 6	ANT 0	ANT 2				
DC_2A_n41A	ANT 1	ANT 9	ANT 0	ANT 1	ANT 1	ANT 10	ANT 1	ANT 2	ANT 0	ANT 10	ANT 0	ANT 2				
DC_4A_n41A	ANT 1	ANT 9	ANT 0	ANT 1	ANT 1	ANT 10	ANT 1	ANT 2	ANT 0	ANT 10	ANT 0	ANT 2				
DC_5A_n41A	ANT 1	ANT 9	ANT 0	ANT 1	ANT 1	ANT 6	ANT 1	ANT 2	ANT 0	ANT 6	ANT 0	ANT 2				
DC_66A_n41A	ANT 1	ANT 9	ANT 0	ANT 1	ANT 1	ANT 10	ANT 1	ANT 2	ANT 0	ANT 10	ANT 0	ANT 2				
DC_71A_n41A	ANT 1	ANT 9	ANT 0	ANT 1	ANT 1	ANT 6	ANT 1	ANT 2	ANT 0	ANT 6	ANT 0	ANT 2				
DC_12A_n66A	ANT 0	ANT 1	ANT 1	ANT 0												
DC_13A_n66A	ANT 0	ANT 1	ANT 1	ANT 0												
DC_14A_n66A	ANT 0	ANT 1	ANT 1	ANT 0												
DC_2A_n66A	ANT 0	ANT 1	ANT 1	ANT 0												
DC_30A_n66A	ANT 9	ANT 1	ANT 1	ANT 0												
DC_48A_n66A	ANT 4	ANT 1	ANT 7	ANT 1	ANT 10	ANT 1	ANT 8	ANT 1	ANT 4	ANT 0	ANT 7	ANT 0	ANT 10	ANT 0	ANT 8	ANT 0
DC_5A_n66A	ANT 0	ANT 1	ANT 1	ANT 0												
DC_71A_n66A	ANT 0	ANT 1	ANT 1	ANT 0												
DC_7A_n66A	ANT 9	ANT 1	ANT 1	ANT 0												
DC_2A_n71A	ANT 0	ANT 1	ANT 1	ANT 0												
DC_48A_n71A	ANT 4	ANT 1	ANT 7	ANT 1	ANT 10	ANT 1	ANT 8	ANT 1	ANT 4	ANT 0	ANT 7	ANT 0	ANT 10	ANT 0	ANT 8	ANT 0
DC_66A_n71A	ANT 0	ANT 1	ANT 1	ANT 0												
DC_7A_n71A	ANT 0	ANT 1	ANT 1	ANT 0												
DC_12A_n77A	ANT 0	ANT 7	ANT 0	ANT 4	ANT 0	ANT 10	ANT 0	ANT 8	ANT 1	ANT 7	ANT 1	ANT 4	ANT 1	ANT 10	ANT 1	ANT 8
DC_13A_n77A	ANT 0	ANT 7	ANT 0	ANT 4	ANT 0	ANT 10	ANT 0	ANT 8	ANT 1	ANT 7	ANT 1	ANT 4	ANT 1	ANT 10	ANT 1	ANT 8
DC_14A_n77A	ANT 0	ANT 7	ANT 0	ANT 4	ANT 0	ANT 10	ANT 0	ANT 8	ANT 1	ANT 7	ANT 1	ANT 4	ANT 1	ANT 10	ANT 1	ANT 8
DC_25A_n77A	ANT 0	ANT 7	ANT 0	ANT 4	ANT 0	ANT 10	ANT 0	ANT 8	ANT 1	ANT 7	ANT 1	ANT 4	ANT 1	ANT 10	ANT 1	ANT 8
DC_2A_n77A	ANT 0	ANT 7	ANT 0	ANT 4	ANT 0	ANT 10	ANT 0	ANT 8	ANT 1	ANT 7	ANT 1	ANT 4	ANT 1	ANT 10	ANT 1	ANT 8
DC_41A_n77A	ANT 9	ANT 7	ANT 9	ANT 4	ANT 9	ANT 10	ANT 9	ANT 8	ANT 1	ANT 7	ANT 1	ANT 4	ANT 1	ANT 10	ANT 1	ANT 8
DC_5A_n77A	ANT 0	ANT 7	ANT 0	ANT 4	ANT 0	ANT 10	ANT 0	ANT 8	ANT 1	ANT 7	ANT 1	ANT 4	ANT 1	ANT 10	ANT 1	ANT 8
DC_66A_n77A	ANT 0	ANT 7	ANT 0	ANT 4	ANT 0	ANT 10	ANT 0	ANT 8	ANT 1	ANT 7	ANT 1	ANT 4	ANT 1	ANT 10	ANT 1	ANT 8
DC_7A_n77A	ANT 9	ANT 7	ANT 9	ANT 4	ANT 9	ANT 10	ANT 9	ANT 8	ANT 1	ANT 7	ANT 1	ANT 4	ANT 1	ANT 10	ANT 1	ANT 8
DC_30A_n77A	ANT 9	ANT 7	ANT 9	ANT 4	ANT 9	ANT 10	ANT 9	ANT 8	ANT 1	ANT 7	ANT 1	ANT 4	ANT 1	ANT 10	ANT 1	ANT 8
DC_12A_n78A	ANT 0	ANT 7	ANT 0	ANT 4	ANT 0	ANT 10	ANT 0	ANT 8	ANT 1	ANT 7	ANT 1	ANT 4	ANT 1	ANT 10	ANT 1	ANT 8
DC_13A_n78A	ANT 0	ANT 7	ANT 0	ANT 4	ANT 0	ANT 10	ANT 0	ANT 8	ANT 1	ANT 7	ANT 1	ANT 4	ANT 1	ANT 10	ANT 1	ANT 8
DC_25A_n78A	ANT 0	ANT 7	ANT 0	ANT 4	ANT 0	ANT 10	ANT 0	ANT 8	ANT 1	ANT 7	ANT 1	ANT 4	ANT 1	ANT 10	ANT 1	ANT 8
DC_26A_n78A	ANT 0	ANT 7	ANT 0	ANT 4	ANT 0	ANT 10	ANT 0	ANT 8	ANT 1	ANT 7	ANT 1	ANT 4	ANT 1	ANT 10	ANT 1	ANT 8
DC_2A_n78A	ANT 0	ANT 7	ANT 0	ANT 4	ANT 0	ANT 10	ANT 0	ANT 8	ANT 1	ANT 7	ANT 1	ANT 4	ANT 1	ANT 10	ANT 1	ANT 8
DC_38A_n78A	ANT 9	ANT 7	ANT 9	ANT 4	ANT 9	ANT 10	ANT 9	ANT 8	ANT 1	ANT 7	ANT 1	ANT 4	ANT 1	ANT 10	ANT 1	ANT 8
DC_41A_n78A	ANT 9	ANT 7	ANT 9	ANT 4	ANT 9	ANT 10	ANT 9	ANT 8	ANT 1	ANT 7	ANT 1	ANT 4	ANT 1	ANT 10	ANT 1	ANT 8
DC_4A_n78A	ANT 0	ANT 7	ANT 0	ANT 4	ANT 0	ANT 10	ANT 0	ANT 8	ANT 1	ANT 7	ANT 1	ANT 4	ANT 1	ANT 10	ANT 1	ANT 8
DC_5A_n78A	ANT 0	ANT 7	ANT 0	ANT 4	ANT 0	ANT 10	ANT 0	ANT 8	ANT 1	ANT 7	ANT 1	ANT 4	ANT 1	ANT 10	ANT 1	ANT 8
DC_66A_n78A	ANT 0	ANT 7	ANT 0	ANT 4	ANT 0	ANT 10	ANT 0	ANT 8	ANT 1	ANT 7	ANT 1	ANT 4	ANT 1	ANT 10	ANT 1	ANT 8
DC_71A_n78A	ANT 0	ANT 7	ANT 0	ANT 4	ANT 0	ANT 10	ANT 0	ANT 8	ANT 1	ANT 7	ANT 1	ANT 4	ANT 1	ANT 10	ANT 1	ANT 8
DC_7A_n78A	ANT 9	ANT 7	ANT 9	ANT 4	ANT 9	ANT 10	ANT 9	ANT 8	ANT 1	ANT 7	ANT 1	ANT 4	ANT 1	ANT 10	ANT 1	ANT 8

NR UL MIMO Bands Configuration:

ULMIMO Mode	Tx0	Tx1	Tx0	Tx1
5G NR n41	Ant 9	Ant 1	Ant 2	Ant 6
5G NR n48	Ant 4	Ant 7	Ant 10	Ant 8
5G NR n77	Ant 4	Ant 7	Ant 10	Ant 8
5G NR n78	Ant 4	Ant 7	Ant 10	Ant 8

<WLAN Conducted Power>

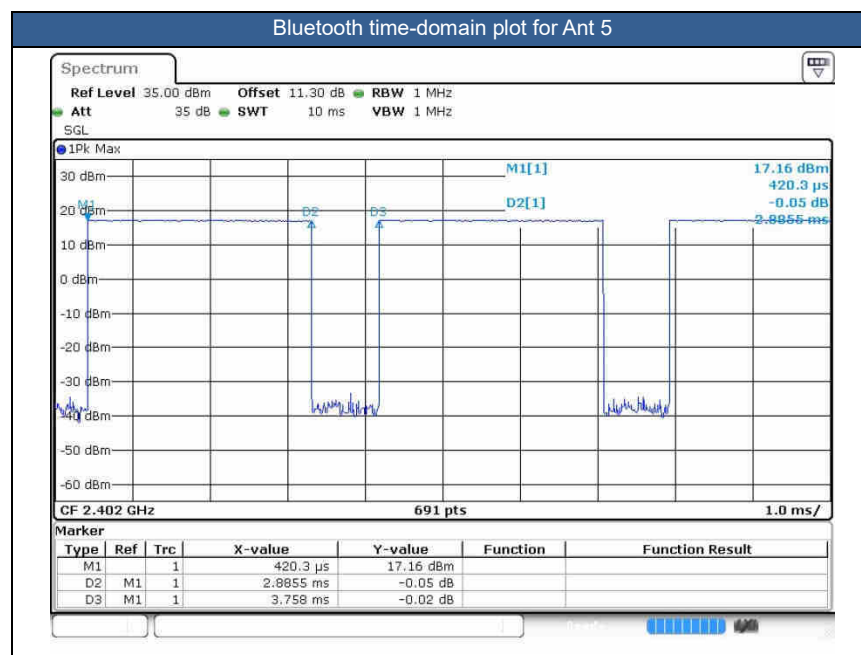
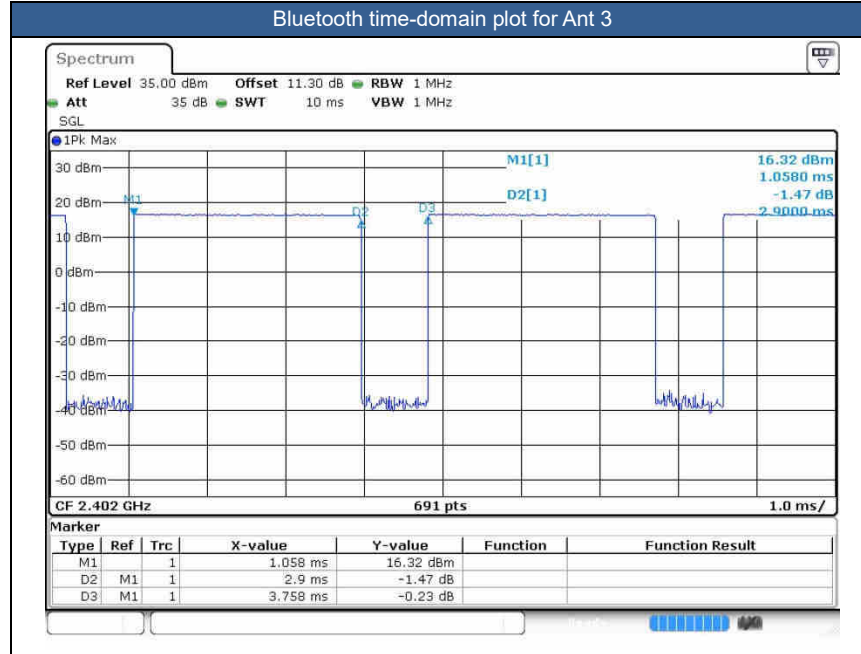
General Note:

1. The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures. For "Not required", SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration. Additional output power measurements were not necessary.
2. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration must be determined for each standalone and aggregated frequency band, according to the transmission mode configuration with the highest maximum output power specified for production units to perform SAR measurements. If the same highest maximum output power applies to different combinations of channel bandwidths, modulations and data rates, additional procedures are applied to determine which test configurations require SAR measurement. When applicable, an initial test position may be applied to reduce the number of SAR measurements required for next to the ear, UMPC mini-tablet or hotspot mode configurations with multiple test positions.
3. For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions. Based on the reported SAR of the measured configurations and maximum output power of the transmission mode configurations that are not included in the initial test configuration, the subsequent test configuration and initial test position procedures are applied to determine if SAR measurements are required for the remaining OFDM transmission configurations. In general, the number of test channels that require SAR measurement is minimized based on maximum output power measured for the test sample(s).
4. For OFDM transmission configurations in the 2.4 GHz and 5 GHz bands, When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel for each frequency band.
5. DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures.18 The initial test position procedure is described in the following:
 - a. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
 - b. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
 - c. For all positions/configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
6. 802.11 ax supports both full tone size mode and partial tone size mode, after verification on partial tone size mode that partial size tone mode power will not be higher than full tone size mode, therefore, full tone mode power was chosen to be measured in this report.
7. The 2.4GHz/5GHz/6GHz WLAN can transmit in MIMO antenna mode only and it has no SISO antenna mode.

<2.4GHz Bluetooth>

General Note:

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth duty cycle are 77.17% for ant 3 and 76.78% for ant 5 as following figure, according to Oct. 2016 TCB workshop for Bluetooth SAR scaling need further consideration and the maximum duty cycle is 100%, therefore the actual duty cycle will be scaled up to 100% for Bluetooth reported SAR calculation





15. Antenna Location

The detailed antenna location information can refer to SAR Test Setup Photos.

16. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. For SAR testing of WLAN/BT signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
 - c. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
 - d. For BT/WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
 - e. For TDD LTE SAR measurement of power class 3, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The reported TDD LTE SAR (W/kg) = Measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
 - f. For TDD LTE SAR measurement of power class 2, the duty cycle 1:2.33 (42.9 %) was used perform testing and considering the theoretical duty cycle of 43.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 42.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 43.3%/42.9% = 1.009 is applied to scale-up the measured SAR result. The reported TDD LTE SAR (W/kg) = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
 - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
 - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
 - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required when the measured SAR is ≥ 0.8 W/kg. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
4. The device implements the power management and proximity sensor /receiver detection/hotspot mode for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) and the Qualcomm smart transmit will manage to ensure the power level not exceeding the associated power table. Details about the power management decision and sensor detection are provided in the operational description. And the device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E.
5. For WLAN/BT when transmit simultaneously with each other, or when transmit simultaneously together with WWAN/BT, power reduction will be activated to head, body-worn exposure condition. For WLAN/BT when transmit simultaneous with WWAN and Proximity sensors trigger, power reduction will be activated to body-worn and extremity exposure conditions.
6. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg, however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.
 - a. For this device SAR for WWAN/WLAN transmitter scaled to maximum output power mode for product specific 10g SAR is higher than 1.2W/kg of GSM1900, WCDMA Band II/IV/V, LTE Band 2/4/5/7/25/26/30/66/38/41/48, 5GNR n2/n7/n25/n30/n66/n70/n38/n41/n48/n78/n77, WLAN2.4/5.2/5.8GHz, therefore product specific 10g SAR is necessary.
 - b. WLAN 5.3/5.5GHz tested the product specific 10g SAR since it has no hotspot mode.
 - c. When 10-g product specific 10g SAR is considered, SAR thresholds is specified in the procedures for SAR test reduction and exclusion should be multiplied by 2.5.

7. Although the headset SAR is greater than 0.8 W/kg, the headset SAR verified the worst of the non-headset SAR and less than non-headset SAR, so there is no need to be tested other channels.
8. According to Nov. 2017 TCB workshop, when the reported 1gSAR for UL CA configuration is <1.2 W/kg, UL CA 1gSAR is not required for all required test channels (PCC based).
9. LTE B2/4/25/66 at ant 0/1, LTE B48 at ant 4/7/8/10 and 5G NR n66 at ant0/1, 5G NR n2/n25 at ant1, 5G NR n38/n41 at ant10, 5G NR n77/n78 at ant4/7/8/10 support different PAs for some antennas. Some NR bands support different PAs for some antennas, whether it is the maximum power of Main PA is higher than and very close to the other PA, for RF exposure, after verification all PAs in a same position, so the worst-case PA was chosen to perform full SAR testing to ensure the RF exposure is compliance and other PAs verified the worst case.
10. The following table "n/a" in the result means the SAR cube is too small to be detected.

GSM Note:

1. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested.
2. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq \frac{1}{4}$ dB higher than the primary mode, SAR measurement is not required for the secondary mode.

WCDMA Note:

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA / HSPA+ is $\leq \frac{1}{4}$ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA / HSPA+ to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA / DC-HSDPA / HSPA+) are less than $\frac{1}{4}$ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+.

LTE Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4 / B5 / B12 / B17 / B26 / B38/ B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
7. LTE B2 /B4 /B5 / B17 / B38 SAR test was covered by B25 / B66 / B26 / B12 / B41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. the maximum output power, including tolerance, for the smaller band is $\leq$ the larger band to qualify for the SAR

test exclusion

- b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band

5G NR Note:

1. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
 - a. SAR testing start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
 - b. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
 - c. QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
 - d. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not $\frac{1}{2}$ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK /16QAM/64QAM/256QAM SAR testing are not required.
 - e. Smaller bandwidth output power for each RB allocation configuration for this device will not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
 - f. For 5G FR1 n5 /n7/n26/n66/n38/n41/n77 the maximum bandwidth does not support three non-overlapping channels, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

WLAN/Bluetooth Note:

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. Per KDB 248227 D01v02r02, U-NII-1 SAR testing is not required when the U-NII-2A band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band.
3. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
4. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
5. During SAR testing the WLAN transmission was verified using a spectrum analyzer.
6. For determination of the scaling factor for report SAR of MIMO mode, if the hot spots are separated the scaling factors are individually determined from each transmit chain. Further simplification chose the worse SAR value and the worst scaling factor from each transmit chain perform reported SAR calculation conservatively. If the hot spots are not spatially separated, the scaling factor is determined from the worst number of each transmit chain.

DSI status description:

The device has the following DSI state which used at different exposure condition.

This WWAN bands enabled with Qualcomm Smart Transmit feature which located at chapter 5. The default power is Pmax power, When Plimit power higher than Pmax power, the output power will be limited at Pmax, and so the SAR will use Pmax power to do the testing.

Exposure Condition	DSI	Trigger Conditions
Head SAR	DSI 2	Receiver on
Body worn SAR	DSI 3	Sensor On
Hotspot SAR	DSI 7	Hotspot On
Extremity (Handheld) SAR	DSI 6	Sensor On
Sensor Off SAR	DSI 4	Sensor Off



16.1 Head SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
750MHz																				
01	LTE Band 71	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 0	DSI 2	133297	680.5	22.83	24.00	1.309	-	-	-0.12	0.169	0.221
	LTE Band 71	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 0	DSI 2	133297	680.5	22.83	24.00	1.309	-	-	0.04	0.094	0.123
	LTE Band 71	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 0	DSI 2	133297	680.5	22.83	24.00	1.309	-	-	-0.09	0.164	0.215
	LTE Band 71	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 0	DSI 2	133297	680.5	22.83	24.00	1.309	-	-	-0.18	0.095	0.124
	LTE Band 71	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DSI 2	133297	680.5	22.73	24.00	1.340	-	-	0.09	0.134	0.180
	LTE Band 71	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DSI 2	133297	680.5	22.73	24.00	1.340	-	-	-0.04	0.072	0.096
	LTE Band 71	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DSI 2	133297	680.5	22.73	24.00	1.340	-	-	0.06	0.128	0.171
	LTE Band 71	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 0	DSI 2	133297	680.5	22.73	24.00	1.340	-	-	0.13	0.076	0.102
	LTE Band 71	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	DSI 2	133297	680.5	19.38	20.60	1.324	-	-	0.04	0.430	0.569
	LTE Band 71	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	DSI 2	133297	680.5	19.38	20.60	1.324	-	-	-0.11	0.411	0.544
	LTE Band 71	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 1	DSI 2	133297	680.5	19.38	20.60	1.324	-	-	-0.11	0.174	0.230
	LTE Band 71	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 1	DSI 2	133297	680.5	19.38	20.60	1.324	-	-	0.11	0.188	0.249
	LTE Band 71	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 2	133297	680.5	19.30	20.60	1.349	-	-	-0.11	0.413	0.557
	LTE Band 71	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	133297	680.5	19.30	20.60	1.349	-	-	-0.16	0.407	0.549
	LTE Band 71	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	DSI 2	133297	680.5	19.30	20.60	1.349	-	-	-0.12	0.174	0.235
	LTE Band 71	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	DSI 2	133297	680.5	19.30	20.60	1.349	-	-	-0.17	0.190	0.256
	LTE Band 12	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 0	DSI 2	23095	707.5	23.04	24.00	1.247	-	-	0.07	0.167	0.208
	LTE Band 12	10M	QPSK	1	25	-	Right Tilted	0mm	Ant 0	DSI 2	23095	707.5	23.04	24.00	1.247	-	-	-0.18	0.094	0.117
	LTE Band 12	10M	QPSK	1	25	-	Left Cheek	0mm	Ant 0	DSI 2	23095	707.5	23.04	24.00	1.247	-	-	0.12	0.166	0.207
	LTE Band 12	10M	QPSK	1	25	-	Left Tilted	0mm	Ant 0	DSI 2	23095	707.5	23.04	24.00	1.247	-	-	0.02	0.123	0.153
	LTE Band 12	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 0	DSI 2	23095	707.5	23.01	24.00	1.256	-	-	0.05	0.137	0.172
	LTE Band 12	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 0	DSI 2	23095	707.5	23.01	24.00	1.256	-	-	0.03	0.076	0.095
	LTE Band 12	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 0	DSI 2	23095	707.5	23.01	24.00	1.256	-	-	0.03	0.134	0.168
	LTE Band 12	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 0	DSI 2	23095	707.5	23.01	24.00	1.256	-	-	-0.08	0.099	0.124
	LTE Band 12	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 1	DSI 2	23095	707.5	20.11	21.20	1.285	-	-	0.02	0.425	0.546
	LTE Band 12	10M	QPSK	1	25	-	Right Tilted	0mm	Ant 1	DSI 2	23095	707.5	20.11	21.20	1.285	-	-	-0.06	0.378	0.486
	LTE Band 12	10M	QPSK	1	25	-	Left Cheek	0mm	Ant 1	DSI 2	23095	707.5	20.11	21.20	1.285	-	-	0.18	0.180	0.231
	LTE Band 12	10M	QPSK	1	25	-	Left Tilted	0mm	Ant 1	DSI 2	23095	707.5	20.11	21.20	1.285	-	-	-0.12	0.184	0.236
02	LTE Band 12	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 1	DSI 2	23095	707.5	20.00	21.20	1.318	-	-	0.18	0.406	0.535
	LTE Band 12	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 1	DSI 2	23095	707.5	20.00	21.20	1.318	-	-	0.07	0.394	0.519
	LTE Band 12	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 1	DSI 2	23095	707.5	20.00	21.20	1.318	-	-	-0.04	0.189	0.249
	LTE Band 12	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 1	DSI 2	23095	707.5	20.00	21.20	1.318	-	-	-0.16	0.192	0.253
	LTE Band 13	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 0	DSI 2	23230	782	22.89	24.00	1.291	-	-	0.09	0.220	0.284
	LTE Band 13	10M	QPSK	1	25	-	Right Tilted	0mm	Ant 0	DSI 2	23230	782	22.89	24.00	1.291	-	-	-0.15	0.136	0.176
	LTE Band 13	10M	QPSK	1	25	-	Left Cheek	0mm	Ant 0	DSI 2	23230	782	22.89	24.00	1.291	-	-	0	0.190	0.245
	LTE Band 13	10M	QPSK	1	25	-	Left Tilted	0mm	Ant 0	DSI 2	23230	782	22.89	24.00	1.291	-	-	-0.09	0.125	0.161
	LTE Band 13	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 0	DSI 2	23230	782	22.88	24.00	1.294	-	-	-0.09	0.181	0.234
	LTE Band 13	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 0	DSI 2	23230	782	22.88	24.00	1.294	-	-	0.15	0.114	0.148
	LTE Band 13	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 0	DSI 2	23230	782	22.88	24.00	1.294	-	-	-0.06	0.156	0.202
	LTE Band 13	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 0	DSI 2	23230	782	22.88	24.00	1.294	-	-	0.16	0.103	0.133
	LTE Band 13	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 1	DSI 2	23230	782	19.96	21.20	1.330	-	-	-0.01	0.413	0.549
	LTE Band 13	10M	QPSK	1	25	-	Right Tilted	0mm	Ant 1	DSI 2	23230	782	19.96	21.20	1.330	-	-	-0.13	0.403	0.536
	LTE Band 13	10M	QPSK	1	25	-	Left Cheek	0mm	Ant 1	DSI 2	23230	782	19.96	21.20	1.330	-	-	-0.12	0.205	0.273
	LTE Band 13	10M	QPSK	1	25	-	Left Tilted	0mm	Ant 1	DSI 2	23230	782	19.96	21.20	1.330	-	-	0.14	0.208	0.277
	LTE Band 13	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 1	DSI 2	23230	782	19.89	21.20	1.352	-	-	-0.12	0.401	0.542
	LTE Band 13	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 1	DSI 2	23230	782	19.89	21.20	1.352	-	-	0.18	0.393	0.531
	LTE Band 13	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 1	DSI 2	23230	782	19.89	21.20	1.352	-	-	0.02	0.190	0.257
	LTE Band 13	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 1	DSI 2	23230	782	19.89	21.20	1.352	-	-	0	0.197	0.266
	LTE Band 14	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 0	DSI 2	23330	793	22.76	24.00	1.330	-	-	-0.11	0.249	0.331
	LTE Band 14	10M	QPSK	1	25	-	Right Tilted	0mm	Ant 0	DSI 2	23330	793	22.76	24.00	1.330	-	-	0.13	0.152	0.202



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	LTE Band 14	10M	QPSK	1	25	-	Left Cheek	0mm	Ant 0	DSI 2	23330	793	22.76	24.00	1.330	-	-	0.14	0.208	0.277
	LTE Band 14	10M	QPSK	1	25	-	Left Tilted	0mm	Ant 0	DSI 2	23330	793	22.76	24.00	1.330	-	-	0.09	0.136	0.181
	LTE Band 14	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 0	DSI 2	23330	793	22.74	24.00	1.337	-	-	-0.09	0.208	0.278
	LTE Band 14	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 0	DSI 2	23330	793	22.74	24.00	1.337	-	-	0.01	0.127	0.170
	LTE Band 14	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 0	DSI 2	23330	793	22.74	24.00	1.337	-	-	0.07	0.176	0.235
	LTE Band 14	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 0	DSI 2	23330	793	22.74	24.00	1.337	-	-	-0.15	0.113	0.151
04	LTE Band 14	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 1	DSI 2	23330	793	21.03	22.50	1.403	-	-	-0.04	0.419	0.588
	LTE Band 14	10M	QPSK	1	25	-	Right Tilted	0mm	Ant 1	DSI 2	23330	793	21.03	22.50	1.403	-	-	0.12	0.384	0.539
	LTE Band 14	10M	QPSK	1	25	-	Left Cheek	0mm	Ant 1	DSI 2	23330	793	21.03	22.50	1.403	-	-	-0.15	0.160	0.224
	LTE Band 14	10M	QPSK	1	25	-	Left Tilted	0mm	Ant 1	DSI 2	23330	793	21.03	22.50	1.403	-	-	0.13	0.167	0.234
	LTE Band 14	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 1	DSI 2	23330	793	20.98	22.50	1.419	-	-	0.14	0.379	0.538
	LTE Band 14	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 1	DSI 2	23330	793	20.98	22.50	1.419	-	-	0.1	0.371	0.526
	LTE Band 14	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 1	DSI 2	23330	793	20.98	22.50	1.419	-	-	-0.03	0.152	0.216
	LTE Band 14	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 1	DSI 2	23330	793	20.98	22.50	1.419	-	-	0.15	0.159	0.226
	FR1 n71	30M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 0	DSI 2	136100	680.5	23.12	24.00	1.225	-	-	0.17	0.120	0.147
	FR1 n71	30M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 0	DSI 2	136100	680.5	23.12	24.00	1.225	-	-	0.02	0.061	0.075
	FR1 n71	30M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 0	DSI 2	136100	680.5	23.12	24.00	1.225	-	-	-0.06	0.112	0.137
	FR1 n71	30M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 0	DSI 2	136100	680.5	23.12	24.00	1.225	-	-	-0.02	0.055	0.067
	FR1 n71	30M	QPSK	80	40	DFT-15	Right Cheek	0mm	Ant 0	DSI 2	136100	680.5	22.75	24.00	1.334	-	-	-0.04	0.092	0.123
	FR1 n71	30M	QPSK	80	40	DFT-15	Right Tilted	0mm	Ant 0	DSI 2	136100	680.5	22.75	24.00	1.334	-	-	-0.1	0.047	0.063
	FR1 n71	30M	QPSK	80	40	DFT-15	Left Cheek	0mm	Ant 0	DSI 2	136100	680.5	22.75	24.00	1.334	-	-	0.11	0.088	0.117
	FR1 n71	30M	QPSK	80	40	DFT-15	Left Tilted	0mm	Ant 0	DSI 2	136100	680.5	22.75	24.00	1.334	-	-	0.09	0.050	0.067
05	FR1 n71	30M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	136100	680.5	20.25	21.00	1.189	-	-	-0.03	0.429	0.510
	FR1 n71	30M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 1	DSI 2	136100	680.5	20.25	21.00	1.189	-	-	-0.12	0.307	0.365
	FR1 n71	30M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 1	DSI 2	136100	680.5	20.25	21.00	1.189	-	-	0.1	0.180	0.214
	FR1 n71	30M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 1	DSI 2	136100	680.5	20.25	21.00	1.189	-	-	0	0.191	0.227
	FR1 n71	30M	QPSK	80	40	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	136100	680.5	20.22	21.00	1.197	-	-	-0.09	0.415	0.497
	FR1 n71	30M	QPSK	80	40	DFT-15	Right Tilted	0mm	Ant 1	DSI 2	136100	680.5	20.22	21.00	1.197	-	-	0.07	0.319	0.382
	FR1 n71	30M	QPSK	80	40	DFT-15	Left Cheek	0mm	Ant 1	DSI 2	136100	680.5	20.22	21.00	1.197	-	-	-0.18	0.182	0.218
	FR1 n71	30M	QPSK	80	40	DFT-15	Left Tilted	0mm	Ant 1	DSI 2	136100	680.5	20.22	21.00	1.197	-	-	-0.16	0.194	0.232
	FR1 n12	15M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 0	DSI 2	141500	707.5	23.01	24.00	1.256	-	-	-0.19	0.108	0.136
	FR1 n12	15M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 0	DSI 2	141500	707.5	23.01	24.00	1.256	-	-	-0.05	0.065	0.082
	FR1 n12	15M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 0	DSI 2	141500	707.5	23.01	24.00	1.256	-	-	-0.03	0.107	0.134
	FR1 n12	15M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 0	DSI 2	141500	707.5	23.01	24.00	1.256	-	-	-0.13	0.062	0.078
	FR1 n12	15M	QPSK	36	22	DFT-15	Right Cheek	0mm	Ant 0	DSI 2	141500	707.5	22.96	24.00	1.271	-	-	0.04	0.105	0.133
	FR1 n12	15M	QPSK	36	22	DFT-15	Right Tilted	0mm	Ant 0	DSI 2	141500	707.5	22.96	24.00	1.271	-	-	-0.04	0.065	0.083
	FR1 n12	15M	QPSK	36	22	DFT-15	Left Cheek	0mm	Ant 0	DSI 2	141500	707.5	22.96	24.00	1.271	-	-	0.19	0.102	0.130
	FR1 n12	15M	QPSK	36	22	DFT-15	Left Tilted	0mm	Ant 0	DSI 2	141500	707.5	22.96	24.00	1.271	-	-	-0.12	0.066	0.084
06	FR1 n12	15M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	141500	707.5	20.41	21.00	1.146	-	-	-0.05	0.467	0.535
	FR1 n12	15M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 1	DSI 2	141500	707.5	20.41	21.00	1.146	-	-	-0.01	0.455	0.521
	FR1 n12	15M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 1	DSI 2	141500	707.5	20.41	21.00	1.146	-	-	0.16	0.222	0.254
	FR1 n12	15M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 1	DSI 2	141500	707.5	20.41	21.00	1.146	-	-	-0.06	0.230	0.263
	FR1 n12	15M	QPSK	36	22	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	141500	707.5	20.38	21.00	1.153	-	-	0.01	0.449	0.518
	FR1 n12	15M	QPSK	36	22	DFT-15	Right Tilted	0mm	Ant 1	DSI 2	141500	707.5	20.38	21.00	1.153	-	-	0.16	0.433	0.499
	FR1 n12	15M	QPSK	36	22	DFT-15	Left Cheek	0mm	Ant 1	DSI 2	141500	707.5	20.38	21.00	1.153	-	-	-0.15	0.205	0.236
	FR1 n12	15M	QPSK	36	22	DFT-15	Left Tilted	0mm	Ant 1	DSI 2	141500	707.5	20.38	21.00	1.153	-	-	-0.07	0.221	0.255
	FR1 n14	10M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 0	DSI 2	158600	793	22.82	24.00	1.312	-	-	0.13	0.118	0.155
	FR1 n14	10M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 0	DSI 2	158600	793	22.82	24.00	1.312	-	-	0.01	0.073	0.096
	FR1 n14	10M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 0	DSI 2	158600	793	22.82	24.00	1.312	-	-	0.05	0.104	0.136
	FR1 n14	10M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 0	DSI 2	158600	793	22.82	24.00	1.312	-	-	-0.17	0.064	0.084
	FR1 n14	10M	QPSK	25	14	DFT-15	Right Cheek	0mm	Ant 0	DSI 2	158600	793	22.71	24.00	1.346	-	-	-0.1	0.126	0.170
	FR1 n14	10M	QPSK	25	14	DFT-15	Right Tilted	0mm	Ant 0	DSI 2	158600	793	22.71	24.00	1.346	-	-	0.19	0.076	0.102
	FR1 n14	10M	QPSK	25	14	DFT-15	Left Cheek	0mm	Ant 0	DSI 2	158600	793	22.71	24.00	1.346	-	-	0.07	0.105	0.141
	FR1 n14	10M	QPSK	25	14	DFT-15	Left Tilted	0mm	Ant 0	DSI 2	158600	793	22.71	24.00	1.346	-	-	-0.03	0.067	0.090
07	FR1 n14	10M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	158600	793	21.21	22.00	1.199	-	-	-0.15	0.495	0.594
	FR1 n14	10M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 1	DSI 2	158600	793	21.21	22.00	1.199	-	-	0.11	0.491	0.589



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	FR1 n14	10M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 1	DSI 2	158600	793	21.21	22.00	1.199	-	-	-0.12	0.227	0.272
	FR1 n14	10M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 1	DSI 2	158600	793	21.21	22.00	1.199	-	-	0.02	0.238	0.285
	FR1 n14	10M	QPSK	25	14	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	158600	793	21.17	22.00	1.211	-	-	0.05	0.478	0.579
	FR1 n14	10M	QPSK	25	14	DFT-15	Right Tilted	0mm	Ant 1	DSI 2	158600	793	21.17	22.00	1.211	-	-	0.05	0.472	0.571
	FR1 n14	10M	QPSK	25	14	DFT-15	Left Cheek	0mm	Ant 1	DSI 2	158600	793	21.17	22.00	1.211	-	-	0.15	0.218	0.264
	FR1 n14	10M	QPSK	25	14	DFT-15	Left Tilted	0mm	Ant 1	DSI 2	158600	793	21.17	22.00	1.211	-	-	-0.12	0.225	0.272
835MHz																				
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Right Cheek	0mm	Ant 0	DSI 2	189	836.4	27.93	28.80	1.222	-	-	0.1	0.177	0.216
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Right Tilted	0mm	Ant 0	DSI 2	189	836.4	27.93	28.80	1.222	-	-	-0.06	0.069	0.084
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Left Cheek	0mm	Ant 0	DSI 2	189	836.4	27.93	28.80	1.222	-	-	-0.14	0.111	0.136
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Left Tilted	0mm	Ant 0	DSI 2	189	836.4	27.93	28.80	1.222	-	-	-0.13	0.067	0.082
08	GSM850	-	-	-	-	GPRS (3 Tx slots)	Right Cheek	0mm	Ant 0	DSI 2	128	824.2	27.82	28.80	1.253	-	-	0.15	0.185	0.232
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Right Cheek	0mm	Ant 0	DSI 2	251	848.8	27.92	28.80	1.225	-	-	0.04	0.182	0.223
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	4182	836.4	22.27	24.00	1.489	-	-	-0.16	0.222	0.331
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 0	DSI 2	4182	836.4	22.27	24.00	1.489	-	-	-0.12	0.128	0.191
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 2	4182	836.4	22.27	24.00	1.489	-	-	0	0.183	0.273
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 0	DSI 2	4182	836.4	22.27	24.00	1.489	-	-	0.16	0.111	0.165
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	4132	826.4	22.15	24.00	1.531	-	-	0.14	0.216	0.331
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	4233	846.6	22.25	24.00	1.496	-	-	0.16	0.226	0.338
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 2	4182	836.4	20.72	21.90	1.312	-	-	0.17	0.392	0.514
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 2	4182	836.4	20.72	21.90	1.312	-	-	0.16	0.414	0.543
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	DSI 2	4182	836.4	20.72	21.90	1.312	-	-	-0.13	0.202	0.265
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	DSI 2	4182	836.4	20.72	21.90	1.312	-	-	0.02	0.212	0.278
09	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 2	4132	826.4	20.56	21.90	1.361	-	-	0.08	0.420	0.572
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 2	4233	846.6	20.66	21.90	1.330	-	-	-0.13	0.391	0.520
	LTE Band 26	15M	QPSK	1	37	-	Right Cheek	0mm	Ant 0	DSI 2	26865	831.5	22.66	24.00	1.361	-	-	0.03	0.252	0.343
	LTE Band 5B	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	20575+20476	841.5+831.6	22.54	24.00	1.400	-	-	0.03	0.234	0.328
	LTE Band 26	15M	QPSK	1	37	-	Right Tilted	0mm	Ant 0	DSI 2	26865	831.5	22.66	24.00	1.361	-	-	-0.17	0.139	0.189
	LTE Band 26	15M	QPSK	1	37	-	Left Cheek	0mm	Ant 0	DSI 2	26865	831.5	22.66	24.00	1.361	-	-	0.14	0.201	0.274
	LTE Band 26	15M	QPSK	1	37	-	Left Tilted	0mm	Ant 0	DSI 2	26865	831.5	22.66	24.00	1.361	-	-	-0.03	0.055	0.075
	LTE Band 26	15M	QPSK	1	37	-	Right Cheek	0mm	Ant 0	DSI 2	26765	821.5	22.47	24.00	1.422	-	-	0.17	0.235	0.334
	LTE Band 26	15M	QPSK	1	37	-	Right Cheek	0mm	Ant 0	DSI 2	26965	841.5	22.62	24.00	1.374	-	-	0.05	0.218	0.300
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 0	DSI 2	26865	831.5	22.61	24.00	1.377	-	-	-0.13	0.215	0.296
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 0	DSI 2	26865	831.5	22.61	24.00	1.377	-	-	0.13	0.127	0.175
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 0	DSI 2	26865	831.5	22.61	24.00	1.377	-	-	-0.06	0.178	0.245
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 0	DSI 2	26865	831.5	22.61	24.00	1.377	-	-	0.07	0.044	0.061
	LTE Band 26	15M	QPSK	1	37	-	Right Cheek	0mm	Ant 1	DSI 2	26865	831.5	19.78	20.90	1.294	-	-	-0.06	0.375	0.485
10	LTE Band 26	15M	QPSK	1	37	-	Right Tilted	0mm	Ant 1	DSI 2	26865	831.5	19.78	20.90	1.294	-	-	0.15	0.392	0.507
	LTE Band 26	15M	QPSK	1	37	-	Left Cheek	0mm	Ant 1	DSI 2	26865	831.5	19.78	20.90	1.294	-	-	0.16	0.204	0.264
	LTE Band 26	15M	QPSK	1	37	-	Left Tilted	0mm	Ant 1	DSI 2	26865	831.5	19.78	20.90	1.294	-	-	0.13	0.211	0.273
	LTE Band 26	15M	QPSK	1	37	-	Right Tilted	0mm	Ant 1	DSI 2	26765	821.5	19.74	20.90	1.306	-	-	0.06	0.364	0.475
	LTE Band 26	15M	QPSK	1	37	-	Right Tilted	0mm	Ant 1	DSI 2	26965	841.5	19.70	20.90	1.318	-	-	0.12	0.354	0.467
	LTE Band 5B	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	20575+20476	841.5+831.6	19.70	20.90	1.318	-	-	0.04	0.351	0.463
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 1	DSI 2	26865	831.5	19.71	20.90	1.315	-	-	-0.11	0.328	0.431
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 1	DSI 2	26865	831.5	19.71	20.90	1.315	-	-	-0.12	0.340	0.447
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 1	DSI 2	26865	831.5	19.71	20.90	1.315	-	-	0.18	0.150	0.197
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 1	DSI 2	26865	831.5	19.71	20.90	1.315	-	-	0.13	0.160	0.210
	FR1 n26	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 0	DSI 2	166300	831.5	23.09	24.00	1.233	-	-	0.09	0.136	0.168
	FR1 n26	20M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 0	DSI 2	166300	831.5	23.09	24.00	1.233	-	-	0.17	0.078	0.096
	FR1 n26	20M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 0	DSI 2	166300	831.5	23.09	24.00	1.233	-	-	-0.09	0.115	0.142
	FR1 n26	20M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 0	DSI 2	166300	831.5	23.09	24.00	1.233	-	-	0.01	0.071	0.088
	FR1 n26	20M	QPSK	50	28	DFT-15	Right Cheek	0mm	Ant 0	DSI 2	166300	831.5	22.96	24.00	1.271	-	-	0.07	0.159	0.202
	FR1 n26	20M	QPSK	50	28	DFT-15	Right Tilted	0mm	Ant 0	DSI 2	166300	831.5	22.96	24.00	1.271	-	-	0.04	0.089	0.113
	FR1 n26	20M	QPSK	50	28	DFT-15	Left Cheek	0mm	Ant 0	DSI 2	166300	831.5	22.96	24.00	1.271	-	-	-0.03	0.134	0.170



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	FR1 n26	20M	QPSK	50	28	DFT-15	Left Tilted	0mm	Ant 0	DSI 2	166300	831.5	22.96	24.00	1.271	-	-	-0.04	0.083	0.105
11	FR1 n26	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	166300	831.5	19.83	20.50	1.167	-	-	-0.15	0.448	0.523
	FR1 n26	20M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 1	DSI 2	166300	831.5	19.83	20.50	1.167	-	-	0.1	0.428	0.499
	FR1 n26	20M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 1	DSI 2	166300	831.5	19.83	20.50	1.167	-	-	-0.16	0.226	0.264
	FR1 n26	20M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 1	DSI 2	166300	831.5	19.83	20.50	1.167	-	-	0.11	0.237	0.277
	FR1 n26	20M	QPSK	50	28	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	166300	831.5	19.79	20.50	1.178	-	-	-0.17	0.431	0.508
	FR1 n26	20M	QPSK	50	28	DFT-15	Right Tilted	0mm	Ant 1	DSI 2	166300	831.5	19.79	20.50	1.178	-	-	-0.14	0.420	0.495
	FR1 n26	20M	QPSK	50	28	DFT-15	Left Cheek	0mm	Ant 1	DSI 2	166300	831.5	19.79	20.50	1.178	-	-	-0.13	0.224	0.264
	FR1 n26	20M	QPSK	50	28	DFT-15	Left Tilted	0mm	Ant 1	DSI 2	166300	831.5	19.79	20.50	1.178	-	-	0.11	0.232	0.273
1750MHz																				
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	1413	1732.6	22.82	24.00	1.312	-	-	-0.17	0.144	0.189
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 0	DSI 2	1413	1732.6	22.82	24.00	1.312	-	-	0.04	0.071	0.093
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 2	1413	1732.6	22.82	24.00	1.312	-	-	0.04	0.140	0.184
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 0	DSI 2	1413	1732.6	22.82	24.00	1.312	-	-	-0.16	0.073	0.096
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	1312	1712.4	22.54	24.00	1.400	-	-	-0.15	0.113	0.158
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	1513	1752.6	22.70	24.00	1.349	-	-	0.09	0.127	0.171
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 2	1413	1732.6	16.61	17.90	1.346	-	-	-0.02	0.325	0.437
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 2	1413	1732.6	16.61	17.90	1.346	-	-	0.17	0.356	0.479
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	DSI 2	1413	1732.6	16.61	17.90	1.346	-	-	0.11	0.212	0.285
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	DSI 2	1413	1732.6	16.61	17.90	1.346	-	-	0.02	0.241	0.324
12	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 2	1312	1712.4	16.33	17.90	1.435	-	-	-0.05	0.359	0.515
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 2	1513	1752.6	16.44	17.90	1.400	-	-	-0.03	0.335	0.469
	LTE Band 66	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 0	DSI 2	132322	1745	22.89	24.00	1.291	-	-	-0.14	0.144	0.186
	LTE Band 66	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 0	DSI 2	132322	1745	22.89	24.00	1.291	-	-	0.15	0.084	0.108
	LTE Band 66	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 0	DSI 2	132322	1745	22.89	24.00	1.291	-	-	-0.17	0.133	0.172
	LTE Band 66	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 0	DSI 2	132322	1745	22.89	24.00	1.291	-	-	0.04	0.065	0.084
	LTE Band 66	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 0	DSI 2	132072	1720	22.81	24.00	1.315	-	-	0.08	0.153	0.201
	LTE Band 66C	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	132072+ 132270	1720+ 1740	22.76	24.00	1.330	-	-	0.07	0.144	0.192
	LTE Band 66_Other PA	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 0	DSI 2	132072	1720	23.06	24.00	1.242	-	-	-0.12	0.132	0.164
	LTE Band 66	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 0	DSI 2	132572	1770	22.86	24.00	1.300	-	-	-0.19	0.137	0.178
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DSI 2	132322	1745	22.85	24.00	1.303	-	-	-0.01	0.118	0.154
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DSI 2	132322	1745	22.85	24.00	1.303	-	-	0.15	0.073	0.095
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DSI 2	132322	1745	22.85	24.00	1.303	-	-	0	0.109	0.142
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 0	DSI 2	132322	1745	22.85	24.00	1.303	-	-	0.06	0.058	0.076
	LTE Band 66	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	DSI 2	132322	1745	17.05	18.10	1.274	-	-	0.13	0.368	0.469
13	LTE Band 66	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	DSI 2	132322	1745	17.05	18.10	1.274	-	-	-0.04	0.418	0.532
	LTE Band 66C	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	132322+ 132520	1745+ 1764.8	17.00	18.10	1.288	-	-	0.12	0.389	0.501
	LTE Band 66_Other PA	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	DSI 2	132322	1745	17.05	18.10	1.274	-	-	0.19	0.384	0.489
	LTE Band 66	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 1	DSI 2	132322	1745	17.05	18.10	1.274	-	-	-0.17	0.235	0.299
	LTE Band 66	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 1	DSI 2	132322	1745	17.05	18.10	1.274	-	-	-0.03	0.268	0.341
	LTE Band 66	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	DSI 2	132072	1720	16.97	18.10	1.297	-	-	0.19	0.406	0.527
	LTE Band 66	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	DSI 2	132572	1770	16.98	18.10	1.294	-	-	0.19	0.383	0.496
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 2	132322	1745	17.01	18.10	1.285	-	-	-0.16	0.373	0.479
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	132322	1745	17.01	18.10	1.285	-	-	0.08	0.410	0.527
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	DSI 2	132322	1745	17.01	18.10	1.285	-	-	0.07	0.240	0.308
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	DSI 2	132322	1745	17.01	18.10	1.285	-	-	-0.1	0.274	0.352
	FR1 n70	15M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 0	DSI 2	340500	1702.5	22.97	24.00	1.268	-	-	0.13	0.075	0.095
	FR1 n70	15M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 0	DSI 2	340500	1702.5	22.97	24.00	1.268	-	-	0.19	0.043	0.055
	FR1 n70	15M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 0	DSI 2	340500	1702.5	22.97	24.00	1.268	-	-	0.18	0.063	0.080
	FR1 n70	15M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 0	DSI 2	340500	1702.5	22.97	24.00	1.268	-	-	-	n/a	n/a
	FR1 n70	15M	QPSK	36	22	DFT-15	Right Cheek	0mm	Ant 0	DSI 2	340500	1702.5	22.82	24.00	1.312	-	-	0.06	0.076	0.100
	FR1 n70	15M	QPSK	36	22	DFT-15	Right Tilted	0mm	Ant 0	DSI 2	340500	1702.5	22.82	24.00	1.312	-	-	0.1	0.043	0.056
	FR1 n70	15M	QPSK	36	22	DFT-15	Left Cheek	0mm	Ant 0	DSI 2	340500	1702.5	22.82	24.00	1.312	-	-	-0.08	0.058	0.076
	FR1 n70	15M	QPSK	36	22	DFT-15	Left Tilted	0mm	Ant 0	DSI 2	340500	1702.5	22.82	24.00	1.312	-	-	-	n/a	n/a
	FR1 n70	15M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	340500	1702.5	17.88	18.50	1.153	-	-	-0.02	0.459	0.529



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14	FR1 n70	15M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 1	DSI 2	340500	1702.5	17.88	18.50	1.153	-	-	-0.11	0.502	0.579
	FR1 n70	15M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 1	DSI 2	340500	1702.5	17.88	18.50	1.153	-	-	-0.1	0.293	0.338
	FR1 n70	15M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 1	DSI 2	340500	1702.5	17.88	18.50	1.153	-	-	-0.1	0.406	0.468
	FR1 n70	15M	QPSK	36	22	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	340500	1702.5	17.85	18.50	1.161	-	-	0.08	0.451	0.524
	FR1 n70	15M	QPSK	36	22	DFT-15	Right Tilted	0mm	Ant 1	DSI 2	340500	1702.5	17.85	18.50	1.161	-	-	-0.11	0.495	0.575
	FR1 n70	15M	QPSK	36	22	DFT-15	Left Cheek	0mm	Ant 1	DSI 2	340500	1702.5	17.85	18.50	1.161	-	-	0.01	0.296	0.344
	FR1 n70	15M	QPSK	36	22	DFT-15	Left Tilted	0mm	Ant 1	DSI 2	340500	1702.5	17.85	18.50	1.161	-	-	0.01	0.395	0.459
	FR1 n66	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 0	DSI 2	349000	1745	23.31	24.00	1.172	-	-	0.16	0.088	0.103
	FR1 n66	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 0	DSI 2	349000	1745	23.31	24.00	1.172	-	-	0.04	0.046	0.054
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 0	DSI 2	349000	1745	23.31	24.00	1.172	-	-	-0.1	0.078	0.091
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 0	DSI 2	349000	1745	23.31	24.00	1.172	-	-	-0.11	0.049	0.057
	FR1 n66	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 0	DSI 2	349000	1745	23.26	24.00	1.186	-	-	-0.06	0.090	0.107
	FR1 n66_Other PA	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 0	DSI 2	349000	1745	23.01	24.00	1.256	-	-	0.04	0.088	0.111
	FR1 n66	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 0	DSI 2	349000	1745	23.26	24.00	1.186	-	-	-0.08	0.046	0.055
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 0	DSI 2	349000	1745	23.26	24.00	1.186	-	-	-0.02	0.086	0.102
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Tilted	0mm	Ant 0	DSI 2	349000	1745	23.26	24.00	1.186	-	-	-0.15	0.044	0.052
	FR1 n66	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	349000	1745	17.62	18.50	1.225	-	-	-0.13	0.434	0.531
15	FR1 n66	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 1	DSI 2	349000	1745	17.62	18.50	1.225	-	-	-0.09	0.471	0.577
	FR1 n66_Other PA	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 1	DSI 2	349000	1745	17.43	18.50	1.279	-	-	-0.17	0.438	0.560
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 1	DSI 2	349000	1745	17.62	18.50	1.225	-	-	-0.17	0.285	0.349
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 1	DSI 2	349000	1745	17.62	18.50	1.225	-	-	-0.17	0.349	0.427
	FR1 n66	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	349000	1745	17.61	18.50	1.227	-	-	0.11	0.406	0.498
	FR1 n66	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 1	DSI 2	349000	1745	17.61	18.50	1.227	-	-	0.03	0.431	0.529
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 1	DSI 2	349000	1745	17.61	18.50	1.227	-	-	0.16	0.263	0.323
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Tilted	0mm	Ant 1	DSI 2	349000	1745	17.61	18.50	1.227	-	-	-0.13	0.318	0.390
1900MHz																				
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Right Cheek	0mm	Ant 0	DSI 2	661	1880	24.88	25.80	1.236	-	-	-0.07	0.045	0.056
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Right Tilted	0mm	Ant 0	DSI 2	661	1880	24.88	25.80	1.236	-	-	-	n/a	n/a
16	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Left Cheek	0mm	Ant 0	DSI 2	661	1880	24.88	25.80	1.236	-	-	-0.14	0.052	0.065
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Left Tilted	0mm	Ant 0	DSI 2	661	1880	24.88	25.80	1.236	-	-	-	n/a	n/a
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Left Cheek	0mm	Ant 0	DSI 2	512	1850.2	24.83	25.80	1.250	-	-	-0.11	0.048	0.060
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Left Cheek	0mm	Ant 0	DSI 2	810	1909.8	24.81	25.80	1.256	-	-	-0.04	0.050	0.063
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	9400	1880	22.75	24.00	1.334	-	-	-0.13	0.082	0.109
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 0	DSI 2	9400	1880	22.75	24.00	1.334	-	-	0.04	0.055	0.073
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 2	9400	1880	22.75	24.00	1.334	-	-	-0.18	0.105	0.140
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 0	DSI 2	9400	1880	22.75	24.00	1.334	-	-	0.19	0.053	0.071
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 2	9262	1852.4	22.74	24.00	1.337	-	-	-0.02	0.114	0.152
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 2	9538	1907.6	22.72	24.00	1.343	-	-	-0.17	0.139	0.187
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 2	9400	1880	16.86	18.50	1.459	-	-	-0.09	0.321	0.468
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 2	9400	1880	16.86	18.50	1.459	-	-	0.01	0.364	0.531
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	DSI 2	9400	1880	16.86	18.50	1.459	-	-	0.19	0.223	0.325
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	DSI 2	9400	1880	16.86	18.50	1.459	-	-	0.02	0.261	0.381
17	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 2	9262	1852.4	16.78	18.50	1.486	-	-	0.03	0.401	0.596
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 2	9538	1907.6	16.75	18.50	1.496	-	-	-0.19	0.343	0.513
	LTE Band 25	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 0	DSI 2	26340	1880	22.67	24.00	1.358	-	-	0.12	0.098	0.133
	LTE Band 25	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 0	DSI 2	26340	1880	22.67	24.00	1.358	-	-	-0.15	0.090	0.122
	LTE Band 25	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 0	DSI 2	26340	1880	22.67	24.00	1.358	-	-	-0.02	0.127	0.173
	LTE Band 25	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 0	DSI 2	26340	1880	22.67	24.00	1.358	-	-	0.19	0.063	0.086
	LTE Band 25	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 0	DSI 2	26140	1860	22.51	24.00	1.409	-	-	0.05	0.115	0.162
	LTE Band 25	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 0	DSI 2	26590	1905	22.61	24.00	1.377	-	-	-0.1	0.144	0.198
	LTE Band 25_Other PA	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 0	DSI 2	26590	1905	23.32	24.00	1.169	-	-	-0.02	0.158	0.185
	LTE Band 25	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DSI 2	26340	1880	22.48	24.00	1.419	-	-	-0.07	0.073	0.104
	LTE Band 25	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DSI 2	26340	1880	22.48	24.00	1.419	-	-	-0.03	0.072	0.102
	LTE Band 25	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DSI 2	26340	1880	22.48	24.00	1.419	-	-	0.14	0.105	0.149
	LTE Band 25	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 0	DSI 2	26340	1880	22.48	24.00	1.419	-	-	0.19	0.065	0.092



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	LTE Band 25	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	DSI 2	26340	1880	15.55	17.00	1.396	-	-	-0.01	0.255	0.356
18	LTE Band 25	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	DSI 2	26340	1880	15.55	17.00	1.396	-	-	0.17	0.395	0.552
	LTE Band 25_Other PA	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	DSI 2	26340	1880	16.18	17.00	1.208	-	-	0.13	0.394	0.476
	LTE Band 25	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 1	DSI 2	26340	1880	15.55	17.00	1.396	-	-	0.16	0.146	0.204
	LTE Band 25	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 1	DSI 2	26340	1880	15.55	17.00	1.396	-	-	0.09	0.192	0.268
	LTE Band 25	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	DSI 2	26140	1860	15.42	17.00	1.439	-	-	0.18	0.251	0.361
	LTE Band 25	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	DSI 2	26590	1905	15.43	17.00	1.435	-	-	0	0.307	0.441
	LTE Band 25	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 2	26340	1880	15.48	17.00	1.419	-	-	-0.11	0.262	0.372
	LTE Band 25	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	26340	1880	15.48	17.00	1.419	-	-	0.06	0.315	0.447
	LTE Band 25	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	DSI 2	26340	1880	15.48	17.00	1.419	-	-	-0.13	0.151	0.214
	LTE Band 25	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	DSI 2	26340	1880	15.48	17.00	1.419	-	-	0.17	0.199	0.282
	FR1 n25	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 0	DSI 2	376500	1882.5	23.36	24.00	1.159	-	-	0.14	0.057	0.066
	FR1 n25	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 0	DSI 2	376500	1882.5	23.36	24.00	1.159	-	-	-0.08	0.041	0.048
	FR1 n25	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 0	DSI 2	376500	1882.5	23.36	24.00	1.159	-	-	-0.06	0.076	0.088
	FR1 n25	40M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 0	DSI 2	376500	1882.5	23.36	24.00	1.159	-	-	0.01	0.045	0.052
	FR1 n25	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 0	DSI 2	376500	1882.5	23.25	24.00	1.189	-	-	0.03	0.060	0.071
	FR1 n25	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 0	DSI 2	376500	1882.5	23.25	24.00	1.189	-	-	0.1	0.055	0.065
	FR1 n25	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 0	DSI 2	376500	1882.5	23.25	24.00	1.189	-	-	0.12	0.092	0.109
	FR1 n25	40M	QPSK	108	54	DFT-15	Left Tilted	0mm	Ant 0	DSI 2	376500	1882.5	23.25	24.00	1.189	-	-	0.19	0.050	0.059
	FR1 n25	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	376500	1882.5	15.92	17.00	1.282	-	-	-0.1	0.419	0.537
19	FR1 n25	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 1	DSI 2	376500	1882.5	15.92	17.00	1.282	-	-	0.17	0.447	0.573
	FR1 n25_Other PA	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 1	DSI 2	376500	1882.5	16.18	17.00	1.208	-	-	-0.18	0.442	0.534
	FR1 n25	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 1	DSI 2	376500	1882.5	15.92	17.00	1.282	-	-	-0.16	0.314	0.403
	FR1 n25	40M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 1	DSI 2	376500	1882.5	15.92	17.00	1.282	-	-	-0.17	0.412	0.528
	FR1 n25	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	376500	1882.5	15.88	17.00	1.294	-	-	-0.1	0.399	0.516
	FR1 n25	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 1	DSI 2	376500	1882.5	15.88	17.00	1.294	-	-	0.15	0.421	0.545
	FR1 n25	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 1	DSI 2	376500	1882.5	15.88	17.00	1.294	-	-	-0.03	0.284	0.368
	FR1 n25	40M	QPSK	108	54	DFT-15	Left Tilted	0mm	Ant 1	DSI 2	376500	1882.5	15.88	17.00	1.294	-	-	0.16	0.384	0.497
2300MHz																				
	LTE Band 30	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 9	DSI 2	27710	2310	23.49	24.00	1.125	-	-	-0.07	0.097	0.109
	LTE Band 30	10M	QPSK	1	25	-	Right Tilted	0mm	Ant 9	DSI 2	27710	2310	23.49	24.00	1.125	-	-	0.13	0.048	0.054
	LTE Band 30	10M	QPSK	1	25	-	Left Cheek	0mm	Ant 9	DSI 2	27710	2310	23.49	24.00	1.125	-	-	0.07	0.061	0.069
	LTE Band 30	10M	QPSK	1	25	-	Left Tilted	0mm	Ant 9	DSI 2	27710	2310	23.49	24.00	1.125	-	-	0.14	0.052	0.058
	LTE Band 30	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 9	DSI 2	27710	2310	23.41	24.00	1.146	-	-	0.1	0.071	0.081
	LTE Band 30	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 9	DSI 2	27710	2310	23.41	24.00	1.146	-	-	0.02	0.046	0.053
	LTE Band 30	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 9	DSI 2	27710	2310	23.41	24.00	1.146	-	-	0.14	0.046	0.053
	LTE Band 30	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 9	DSI 2	27710	2310	23.41	24.00	1.146	-	-	-0.06	0.040	0.046
	LTE Band 30	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 1	DSI 2	27710	2310	14.91	16.40	1.409	-	-	0.08	0.297	0.419
20	LTE Band 30	10M	QPSK	1	25	-	Right Tilted	0mm	Ant 1	DSI 2	27710	2310	14.91	16.40	1.409	-	-	0.15	0.396	0.558
	LTE Band 30	10M	QPSK	1	25	-	Left Cheek	0mm	Ant 1	DSI 2	27710	2310	14.91	16.40	1.409	-	-	0.03	0.251	0.354
	LTE Band 30	10M	QPSK	1	25	-	Left Tilted	0mm	Ant 1	DSI 2	27710	2310	14.91	16.40	1.409	-	-	0.09	0.293	0.413
	LTE Band 30	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 1	DSI 2	27710	2310	14.90	16.40	1.413	-	-	-0.19	0.302	0.427
	LTE Band 30	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 1	DSI 2	27710	2310	14.90	16.40	1.413	-	-	-0.06	0.385	0.544
	LTE Band 30	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 1	DSI 2	27710	2310	14.90	16.40	1.413	-	-	0.04	0.249	0.352
	LTE Band 30	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 1	DSI 2	27710	2310	14.90	16.40	1.413	-	-	0.13	0.295	0.417
	FR1 n30	10M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 9	DSI 2	462000	2310	22.90	24.00	1.288	-	-	-0.04	0.071	0.091
	FR1 n30	10M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 9	DSI 2	462000	2310	22.90	24.00	1.288	-	-	-0.17	0.035	0.045
	FR1 n30	10M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 9	DSI 2	462000	2310	22.90	24.00	1.288	-	-	0.03	0.045	0.058
	FR1 n30	10M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 9	DSI 2	462000	2310	22.90	24.00	1.288	-	-	0.06	0.038	0.049
	FR1 n30	10M	QPSK	25	14	DFT-15	Right Cheek	0mm	Ant 9	DSI 2	462000	2310	22.75	24.00	1.334	-	-	0	0.052	0.069
	FR1 n30	10M	QPSK	25	14	DFT-15	Right Tilted	0mm	Ant 9	DSI 2	462000	2310	22.75	24.00	1.334	-	-	0.19	0.000	0.000
	FR1 n30	10M	QPSK	25	14	DFT-15	Left Cheek	0mm	Ant 9	DSI 2	462000	2310	22.75	24.00	1.334	-	-	-0.12	0.034	0.045
	FR1 n30	10M	QPSK	25	14	DFT-15	Left Tilted	0mm	Ant 9	DSI 2	462000	2310	22.75	24.00	1.334	-	-	-0.08	0.029	0.039
	FR1 n30	10M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	462000	2310	15.30	17.00	1.479	-	-	0.11	0.301	0.445
21	FR1 n30	10M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 1	DSI 2	462000	2310	15.30	17.00	1.479	-	-	0.09	0.401	0.593
	FR1 n30	10M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 1	DSI 2	462000	2310	15.30	17.00	1.479	-	-	-0.19	0.244	0.361



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	FR1 n30	10M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 1	DSI 2	462000	2310	15.30	17.00	1.479	-	-	0.04	0.322	0.476
	FR1 n30	10M	QPSK	25	14	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	462000	2310	15.23	17.00	1.503	-	-	-0.09	0.274	0.412
	FR1 n30	10M	QPSK	25	14	DFT-15	Right Tilted	0mm	Ant 1	DSI 2	462000	2310	15.23	17.00	1.503	-	-	0.18	0.304	0.457
	FR1 n30	10M	QPSK	25	14	DFT-15	Left Cheek	0mm	Ant 1	DSI 2	462000	2310	15.23	17.00	1.503	-	-	-0.15	0.259	0.389
	FR1 n30	10M	QPSK	25	14	DFT-15	Left Tilted	0mm	Ant 1	DSI 2	462000	2310	15.23	17.00	1.503	-	-	-0.17	0.261	0.392
2600MHz																				
	LTE Band 7	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 9	DSI 2	21100	2535	23.24	24.00	1.191	-	-	-0.19	0.268	0.319
	LTE Band 7	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 9	DSI 2	21100	2535	23.24	24.00	1.191	-	-	0.19	0.098	0.117
	LTE Band 7	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 9	DSI 2	21100	2535	23.24	24.00	1.191	-	-	-0.19	0.145	0.173
	LTE Band 7	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 9	DSI 2	21100	2535	23.24	24.00	1.191	-	-	-0.08	0.089	0.106
	LTE Band 7	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 9	DSI 2	20850	2510	23.07	24.00	1.239	-	-	0.07	0.269	0.333
	LTE Band 7	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 9	DSI 2	21350	2560	23.21	24.00	1.199	-	-	0.19	0.344	0.413
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 9	DSI 2	21100	2535	23.19	24.00	1.205	-	-	0.04	0.215	0.259
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 9	DSI 2	21100	2535	23.19	24.00	1.205	-	-	-0.15	0.077	0.093
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 9	DSI 2	21100	2535	23.19	24.00	1.205	-	-	-0.09	0.118	0.142
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 9	DSI 2	21100	2535	23.19	24.00	1.205	-	-	-0.17	0.074	0.089
	LTE Band 7	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	DSI 2	21100	2535	14.13	15.60	1.403	-	-	0.01	0.307	0.431
	LTE Band 7	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	DSI 2	21100	2535	14.13	15.60	1.403	-	-	0.18	0.357	0.501
	LTE Band 7	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 1	DSI 2	21100	2535	14.13	15.60	1.403	-	-	0.04	0.252	0.354
	LTE Band 7	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 1	DSI 2	21100	2535	14.13	15.60	1.403	-	-	-0.09	0.299	0.419
	LTE Band 7	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	DSI 2	20850	2510	14.09	15.60	1.416	-	-	-0.17	0.368	0.521
22	LTE Band 7	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	DSI 2	21350	2560	14.06	15.60	1.426	-	-	0.09	0.397	0.566
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 2	21100	2535	14.12	15.60	1.406	-	-	-0.09	0.313	0.440
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	21100	2535	14.12	15.60	1.406	-	-	0.07	0.365	0.513
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	DSI 2	21100	2535	14.12	15.60	1.406	-	-	-0.12	0.249	0.350
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	DSI 2	21100	2535	14.12	15.60	1.406	-	-	0.14	0.302	0.425
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 9	DSI 2	41490	2680	23.67	24.00	1.079	62.9	1.006	-0.08	0.247	0.268
	LTE Band 41	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 9	DSI 2	41490	2680	23.67	24.00	1.079	62.9	1.006	0.1	0.083	0.090
	LTE Band 41	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 9	DSI 2	41490	2680	23.67	24.00	1.079	62.9	1.006	-0.09	0.135	0.147
	LTE Band 41	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 9	DSI 2	41490	2680	23.67	24.00	1.079	62.9	1.006	0.19	0.081	0.088
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 9	DSI 2	39750	2506	22.73	24.00	1.340	62.9	1.006	-0.12	0.140	0.189
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 9	DSI 2	40185	2549.5	23.07	24.00	1.239	62.9	1.006	-0.06	0.161	0.201
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 9	DSI 2	40620	2593	23.30	24.00	1.175	62.9	1.006	0.02	0.265	0.313
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 9	DSI 2	41055	2636.5	23.04	24.00	1.247	62.9	1.006	0.06	0.225	0.282
	LTE Band 41 HPUE	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 9	DSI 2	41055	2636.5	26.18	27.00	1.208	42.9	1.009	0.19	0.351	0.428
	LTE Band 41C HPUE	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 9	DSI 2	41055+ 41253	2636.5+ 2656.3	26.02	27.00	1.253	42.9	1.009	0.08	0.288	0.364
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 9	DSI 2	41490	2680	23.60	24.00	1.096	62.9	1.006	-0.19	0.185	0.204
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 9	DSI 2	41490	2680	23.60	24.00	1.096	62.9	1.006	0.13	0.063	0.069
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 9	DSI 2	41490	2680	23.60	24.00	1.096	62.9	1.006	0.12	0.104	0.115
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 9	DSI 2	41490	2680	23.60	24.00	1.096	62.9	1.006	-0.05	0.060	0.066
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	DSI 2	40620	2593	16.30	17.10	1.202	62.9	1.006	-0.12	0.326	0.394
	LTE Band 41	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	DSI 2	40620	2593	16.30	17.10	1.202	62.9	1.006	-0.16	0.366	0.443
	LTE Band 41	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 1	DSI 2	40620	2593	16.30	17.10	1.202	62.9	1.006	0.13	0.278	0.336
	LTE Band 41	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 1	DSI 2	40620	2593	16.30	17.10	1.202	62.9	1.006	-0.04	0.332	0.402
	LTE Band 41	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	DSI 2	39750	2506	15.94	17.10	1.306	62.9	1.006	0.02	0.323	0.424
	LTE Band 41	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	DSI 2	40185	2549.5	16.15	17.10	1.245	62.9	1.006	-0.02	0.303	0.379
	LTE Band 41	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	DSI 2	41055	2636.5	16.19	17.10	1.233	62.9	1.006	-0.06	0.341	0.423
	LTE Band 41	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	DSI 2	41490	2680	16.12	17.10	1.253	62.9	1.006	0.17	0.439	0.553
	LTE Band 41C HPUE	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	41490+ 41292	2680+ 2660.2	16.10	17.10	1.259	42.9	1.009	0.06	0.413	0.525
	LTE Band 41 HPUE	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	DSI 2	41490	2680	17.64	18.70	1.276	42.9	1.009	-0.03	0.425	0.547
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 2	40620	2593	16.26	17.10	1.213	62.9	1.006	0.13	0.315	0.385
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	40620	2593	16.26	17.10	1.213	62.9	1.006	-0.13	0.363	0.443
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	DSI 2	40620	2593	16.26	17.10	1.213	62.9	1.006	-0.04	0.271	0.331
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	DSI 2	40620	2593	16.26	17.10	1.213	62.9	1.006	0.01	0.322	0.393
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	DSI 2	40620	2593	23.53	24.00	1.114	62.9	1.006	-0.1	0.166	0.186
	LTE Band 41	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 2	DSI 2	40620	2593	23.53	24.00	1.114	62.9	1.006	-0.19	0.132	0.148



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	LTE Band 41	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	DSI 2	40620	2593	23.53	24.00	1.114	62.9	1.006	0.16	0.215	0.241
	LTE Band 41	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 2	DSI 2	40620	2593	23.53	24.00	1.114	62.9	1.006	0.09	0.078	0.087
	LTE Band 41	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	DSI 2	39750	2506	23.08	24.00	1.236	62.9	1.006	0.19	0.171	0.213
	LTE Band 41	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	DSI 2	40185	2549.5	23.32	24.00	1.169	62.9	1.006	-0.11	0.194	0.228
	LTE Band 41	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	DSI 2	41055	2636.5	23.12	24.00	1.225	62.9	1.006	0.01	0.226	0.278
	LTE Band 41	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	DSI 2	41490	2680	23.38	24.00	1.153	62.9	1.006	0.03	0.161	0.187
	LTE Band 41 HPUE	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	DSI 2	40620	2593	25.55	27.00	1.396	42.9	1.009	0.02	0.218	0.307
	LTE Band 41C HPUE	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	DSI 2	40620+40818	2593+2612.8	25.55	27.00	1.396	42.9	1.009	0.04	0.212	0.299
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 2	DSI 2	40620	2593	23.49	24.00	1.125	62.9	1.006	0.13	0.127	0.144
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 2	DSI 2	40620	2593	23.49	24.00	1.125	62.9	1.006	-0.15	0.104	0.118
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 2	DSI 2	40620	2593	23.49	24.00	1.125	62.9	1.006	0.17	0.198	0.224
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 2	DSI 2	40620	2593	23.49	24.00	1.125	62.9	1.006	0.07	0.063	0.071
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 6	DSI 2	40620	2593	22.70	23.50	1.202	62.9	1.006	-0.17	0.481	0.582
	LTE Band 41	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 6	DSI 2	40620	2593	22.70	23.50	1.202	62.9	1.006	0.07	0.072	0.087
	LTE Band 41	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 6	DSI 2	40620	2593	22.70	23.50	1.202	62.9	1.006	0.04	0.414	0.501
	LTE Band 41	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 6	DSI 2	40620	2593	22.70	23.50	1.202	62.9	1.006	-0.09	0.055	0.067
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 6	DSI 2	39750	2506	22.53	23.50	1.250	62.9	1.006	-0.15	0.310	0.390
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 6	DSI 2	40185	2549.5	22.55	23.50	1.245	62.9	1.006	-0.01	0.341	0.427
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 6	DSI 2	41055	2636.5	22.64	23.50	1.219	62.9	1.006	-0.09	0.348	0.427
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 6	DSI 2	41490	2680	22.65	23.50	1.216	62.9	1.006	0.03	0.241	0.295
23	LTE Band 41 HPUE	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 6	DSI 2	40620	2593	24.35	25.10	1.189	42.9	1.009	0.16	0.506	0.607
	LTE Band 41C HPUE	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 6	DSI 2	40620+40818	2593+2612.8	24.27	25.10	1.211	42.9	1.009	0.12	0.493	0.602
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 6	DSI 2	40620	2593	22.64	23.50	1.219	62.9	1.006	-0.07	0.430	0.527
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 6	DSI 2	40620	2593	22.64	23.50	1.219	62.9	1.006	0.17	0.072	0.088
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 6	DSI 2	40620	2593	22.64	23.50	1.219	62.9	1.006	-0.01	0.426	0.522
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 6	DSI 2	40620	2593	22.64	23.50	1.219	62.9	1.006	-0.02	0.055	0.067
	FR1 n7	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 9	DSI 2	507000	2535	23.26	24.00	1.186	-	-	0.15	0.144	0.171
	FR1 n7	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 9	DSI 2	507000	2535	23.26	24.00	1.186	-	-	0.14	0.063	0.075
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 9	DSI 2	507000	2535	23.26	24.00	1.186	-	-	-0.16	0.085	0.101
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 9	DSI 2	507000	2535	23.26	24.00	1.186	-	-	-0.08	0.044	0.052
	FR1 n7	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 9	DSI 2	507000	2535	23.20	24.00	1.202	-	-	-0.15	0.144	0.173
	FR1 n7	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 9	DSI 2	507000	2535	23.20	24.00	1.202	-	-	0	0.065	0.078
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 9	DSI 2	507000	2535	23.20	24.00	1.202	-	-	0.16	0.085	0.102
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Tilted	0mm	Ant 9	DSI 2	507000	2535	23.20	24.00	1.202	-	-	0.09	0.045	0.054
	FR1 n7	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	507000	2535	14.67	15.50	1.211	-	-	0.1	0.242	0.293
24	FR1 n7	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 1	DSI 2	507000	2535	14.67	15.50	1.211	-	-	-0.16	0.469	0.568
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 1	DSI 2	507000	2535	14.67	15.50	1.211	-	-	-0.01	0.202	0.245
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 1	DSI 2	507000	2535	14.67	15.50	1.211	-	-	0.19	0.245	0.297
	FR1 n7	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 1	DSI 2	507000	2535	14.65	15.50	1.216	-	-	0.13	0.231	0.281
	FR1 n7	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 1	DSI 2	507000	2535	14.65	15.50	1.216	-	-	-0.03	0.270	0.328
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 1	DSI 2	507000	2535	14.65	15.50	1.216	-	-	-0.16	0.197	0.240
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Tilted	0mm	Ant 1	DSI 2	507000	2535	14.65	15.50	1.216	-	-	-0.14	0.234	0.285
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 9	DSI 2	518598	2592.99	26.01	27.00	1.256	-	-	0.18	0.306	0.384
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 9	DSI 2	518598	2592.99	26.01	27.00	1.256	-	-	0.01	0.120	0.151
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 9	DSI 2	518598	2592.99	26.01	27.00	1.256	-	-	0.12	0.173	0.217
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 9	DSI 2	518598	2592.99	26.01	27.00	1.256	-	-	0.15	0.093	0.117
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 9	DSI 2	518598	2592.99	25.78	27.00	1.324	-	-	-0.11	0.432	0.572
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 9	DSI 2	518598	2592.99	25.78	27.00	1.324	-	-	-0.09	0.165	0.219
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 9	DSI 2	518598	2592.99	25.78	27.00	1.324	-	-	0.05	0.235	0.311
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 9	DSI 2	518598	2592.99	25.78	27.00	1.324	-	-	0.16	0.149	0.197
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 1	DSI 2	518598	2592.99	14.47	16.00	1.422	-	-	0.12	0.284	0.404
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 1	DSI 2	518598	2592.99	14.47	16.00	1.422	-	-	0.01	0.341	0.485
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 1	DSI 2	518598	2592.99	14.47	16.00	1.422	-	-	-0.11	0.253	0.360
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 1	DSI 2	518598	2592.99	14.47	16.00	1.422	-	-	-0.09	0.301	0.428
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 1	DSI 2	518598	2592.99	14.40	16.00	1.445	-	-	-0.12	0.304	0.439



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	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 1	DSI 2	518598	2592.99	14.40	16.00	1.445	-	-	-0.12	0.372	0.538
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 1	DSI 2	518598	2592.99	14.40	16.00	1.445	-	-	-0.17	0.260	0.376
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 1	DSI 2	518598	2592.99	14.40	16.00	1.445	-	-	-0.15	0.316	0.457
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 2	DSI 2	518598	2592.99	24.66	26.00	1.361	-	-	-0.1	0.149	0.203
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 2	DSI 2	518598	2592.99	24.66	26.00	1.361	-	-	-0.18	0.104	0.142
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 2	DSI 2	518598	2592.99	24.66	26.00	1.361	-	-	0.1	0.205	0.279
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 2	DSI 2	518598	2592.99	24.66	26.00	1.361	-	-	-0.1	0.073	0.099
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 2	DSI 2	518598	2592.99	24.61	26.00	1.377	-	-	-0.13	0.142	0.196
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 2	DSI 2	518598	2592.99	24.61	26.00	1.377	-	-	-0.05	0.099	0.136
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 2	DSI 2	518598	2592.99	24.61	26.00	1.377	-	-	0.13	0.196	0.270
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 2	DSI 2	518598	2592.99	24.61	26.00	1.377	-	-	-0.07	0.070	0.096
25	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 6	DSI 2	518598	2592.99	19.37	20.50	1.297	-	-	0.16	0.468	0.607
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 6	DSI 2	518598	2592.99	19.37	20.50	1.297	-	-	0.01	0.051	0.066
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 6	DSI 2	518598	2592.99	19.37	20.50	1.297	-	-	0.19	0.332	0.431
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 6	DSI 2	518598	2592.99	19.37	20.50	1.297	-	-	-0.16	0.039	0.051
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 6	DSI 2	518598	2592.99	19.32	20.50	1.312	-	-	0.14	0.357	0.468
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 6	DSI 2	518598	2592.99	19.32	20.50	1.312	-	-	0.11	0.048	0.063
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 6	DSI 2	518598	2592.99	19.32	20.50	1.312	-	-	-0.03	0.282	0.370
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 6	DSI 2	518598	2592.99	19.32	20.50	1.312	-	-	0.16	0.036	0.047
	FR1 n41 HPUE_Other PA	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 10	DSI 2	518598	2592.99	24.78	26.00	1.324	-	-	-0.05	0.040	0.053
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 10	DSI 2	518598	2592.99	23.99	25.00	1.262	-	-	0.06	0.022	0.028
	FR1 n41 HPUE_Other PA	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 10	DSI 2	518598	2592.99	24.78	26.00	1.324	-	-	0.01	0.016	0.021
	FR1 n41 HPUE_Other PA	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 10	DSI 2	518598	2592.99	24.78	26.00	1.324	-	-	0.11	0.021	0.028
	FR1 n41 HPUE_Other PA	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 10	DSI 2	518598	2592.99	24.78	26.00	1.324	-	-	-0.17	0.011	0.015
	FR1 n41 HPUE_Other PA	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 10	DSI 2	518598	2592.99	24.73	26.00	1.340	-	-	-0.12	0.038	0.051
	FR1 n41 HPUE_Other PA	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 10	DSI 2	518598	2592.99	24.73	26.00	1.340	-	-	0.08	0.015	0.020
	FR1 n41 HPUE_Other PA	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 10	DSI 2	518598	2592.99	24.73	26.00	1.340	-	-	0	0.020	0.027
	FR1 n41 HPUE_Other PA	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 10	DSI 2	518598	2592.99	24.73	26.00	1.340	-	-	0.16	0.011	0.015
3000MHz-4000MHz																				
	LTE Band 48	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 4	DSI 2	56640	3690	19.42	20.00	1.143	62.9	1.006	-0.19	0.446	0.513
	LTE Band 48	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 4	DSI 2	56640	3690	19.42	20.00	1.143	62.9	1.006	0.17	0.172	0.198
	LTE Band 48	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 4	DSI 2	56640	3690	19.42	20.00	1.143	62.9	1.006	0.08	0.077	0.089
	LTE Band 48	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 4	DSI 2	56640	3690	19.42	20.00	1.143	62.9	1.006	-0.14	0.059	0.068
26	LTE Band 48	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 4	DSI 2	55340	3560	19.38	20.00	1.153	62.9	1.006	-0.15	0.758	0.880
	LTE Band 48C	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 2	55340+55538	3560+3579.8	19.24	20.00	1.191	62.9	1.006	0.13	0.724	0.868
	LTE Band 48_Other PA	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 4	DSI 2	55340	3560	19.02	20.00	1.253	62.9	1.006	-0.02	0.666	0.840
	LTE Band 48	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 4	DSI 2	55830	3609	19.37	20.00	1.156	62.9	1.006	0.18	0.665	0.773
	LTE Band 48	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 4	DSI 2	56150	3641	19.29	20.00	1.178	62.9	1.006	-0.16	0.593	0.703
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 2	56640	3690	19.41	20.00	1.146	62.9	1.006	-0.19	0.437	0.504
	LTE Band 48	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 2	56640	3690	19.41	20.00	1.146	62.9	1.006	0.13	0.168	0.194
	LTE Band 48	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DSI 2	56640	3690	19.41	20.00	1.146	62.9	1.006	-0.03	0.080	0.092
	LTE Band 48	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DSI 2	56640	3690	19.41	20.00	1.146	62.9	1.006	-0.05	0.057	0.066
	LTE Band 48	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 4	DSI 2	56640	3690	19.36	20.00	1.159	62.9	1.006	-0.16	0.417	0.486
	LTE Band 48	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 7	DSI 2	55340	3560	22.92	24.00	1.282	62.9	1.006	-0.13	0.200	0.258
	LTE Band 48	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 7	DSI 2	55340	3560	22.92	24.00	1.282	62.9	1.006	-0.08	0.210	0.271
	LTE Band 48	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 7	DSI 2	55340	3560	22.92	24.00	1.282	62.9	1.006	0.11	0.187	0.241
	LTE Band 48	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 7	DSI 2	55340	3560	22.92	24.00	1.282	62.9	1.006	0.01	0.222	0.286
	LTE Band 48	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 7	DSI 2	55830	3609	22.73	24.00	1.340	62.9	1.006	-0.02	0.209	0.282
	LTE Band 48	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 7	DSI 2	56150	3641	22.44	24.00	1.432	62.9	1.006	-0.19	0.227	0.327
	LTE Band 48	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 7	DSI 2	56640	3690	22.81	24.00	1.315	62.9	1.006	0.01	0.252	0.333
	LTE Band 48C	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 7	DSI 2	56640+56442	3690+3670.2	23.58	24.00	1.102	62.9	1.006	0.04	0.282	0.312
	LTE Band 48_Other PA	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 7	DSI 2	56640	3690	21.63	22.50	1.222	62.9	1.006	-0.12	0.129	0.159
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 7	DSI 2	55340	3560	22.15	23.00	1.216	62.9	1.006	0.13	0.083	0.102
	LTE Band 48	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 7	DSI 2	55340	3560	22.15	23.00	1.216	62.9	1.006	-0.03	0.087	0.106
	LTE Band 48	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 7	DSI 2	55340	3560	22.15	23.00	1.216	62.9	1.006	-0.18	0.085	0.104
	LTE Band 48	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 7	DSI 2	55340	3560	22.15	23.00	1.216	62.9	1.006	-0.04	0.092	0.113



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	LTE Band 48	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 10	DSI 2	55830	3609	22.90	24.00	1.288	62.9	1.006	-0.08	0.098	0.127
	LTE Band 48	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 10	DSI 2	55830	3609	22.90	24.00	1.288	62.9	1.006	0.18	0.039	0.051
	LTE Band 48	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 10	DSI 2	55830	3609	22.90	24.00	1.288	62.9	1.006	0.09	0.111	0.144
	LTE Band 48	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 10	DSI 2	55830	3609	22.90	24.00	1.288	62.9	1.006	-	n/a	n/a
	LTE Band 48	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 10	DSI 2	55340	3560	22.85	24.00	1.303	62.9	1.006	-0.12	0.127	0.166
	LTE Band 48C	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 10	DSI 2	55340+ 55538	3560+ 3579.8	23.25	24.00	1.189	62.9	1.006	0.04	0.134	0.160
	LTE Band 48_Other PA	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 10	DSI 2	55340	3560	22.90	24.00	1.288	62.9	1.006	-0.14	0.101	0.131
	LTE Band 48	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 10	DSI 2	56150	3641	22.84	24.00	1.306	62.9	1.006	0.1	0.082	0.108
	LTE Band 48	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 10	DSI 2	56640	3690	22.89	24.00	1.291	62.9	1.006	0.07	0.059	0.077
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 10	DSI 2	55830	3609	22.88	24.00	1.294	62.9	1.006	0.16	0.042	0.055
	LTE Band 48	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 10	DSI 2	55830	3609	22.88	24.00	1.294	62.9	1.006	0.04	0.038	0.049
	LTE Band 48	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 10	DSI 2	55830	3609	22.88	24.00	1.294	62.9	1.006	-0.01	0.044	0.057
	LTE Band 48	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 10	DSI 2	55830	3609	22.88	24.00	1.294	62.9	1.006	-	n/a	n/a
	LTE Band 48	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 8	DSI 2	55340	3560	15.56	16.20	1.159	62.9	1.006	0.11	0.124	0.145
	LTE Band 48	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 8	DSI 2	55340	3560	15.56	16.20	1.159	62.9	1.006	0.07	0.150	0.175
	LTE Band 48	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 8	DSI 2	55340	3560	15.56	16.20	1.159	62.9	1.006	-0.03	0.224	0.261
	LTE Band 48	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 8	DSI 2	55340	3560	15.56	16.20	1.159	62.9	1.006	0.06	0.252	0.294
	LTE Band 48	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 8	DSI 2	55830	3609	15.51	16.20	1.172	62.9	1.006	-0.18	0.332	0.392
	LTE Band 48	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 8	DSI 2	56150	3641	15.51	16.20	1.172	62.9	1.006	-0.11	0.381	0.449
	LTE Band 48	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 8	DSI 2	56640	3690	15.41	16.20	1.199	62.9	1.006	-0.1	0.422	0.509
	LTE Band 48C	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 8	DSI 2	56640+ 56442	3690+ 3670.2	15.28	16.20	1.236	62.9	1.006	0.12	0.388	0.482
	LTE Band 48_Other PA	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 8	DSI 2	56640	3690	23.06	24.00	1.242	62.9	1.006	0.1	0.396	0.495
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 8	DSI 2	55340	3560	15.47	16.20	1.183	62.9	1.006	-0.13	0.118	0.140
	LTE Band 48	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 8	DSI 2	55340	3560	15.47	16.20	1.183	62.9	1.006	0.09	0.143	0.170
	LTE Band 48	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 8	DSI 2	55340	3560	15.47	16.20	1.183	62.9	1.006	0	0.214	0.255
	LTE Band 48	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 8	DSI 2	55340	3560	15.47	16.20	1.183	62.9	1.006	-0.03	0.241	0.287
27	FR1 n48	40M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 4	DSI 2	641666	3624.99	17.29	18.00	1.178	-	-	0.08	0.677	0.797
	FR1 n48	40M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 4	DSI 2	641666	3624.99	17.29	18.00	1.178	-	-	0.16	0.292	0.344
	FR1 n48	40M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 4	DSI 2	641666	3624.99	17.29	18.00	1.178	-	-	0.15	0.126	0.148
	FR1 n48	40M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 4	DSI 2	641666	3624.99	17.29	18.00	1.178	-	-	0.19	0.114	0.134
	FR1 n48	40M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 4	DSI 2	638000	3570	17.16	18.00	1.213	-	-	-0.12	0.633	0.768
	FR1 n48	40M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 4	DSI 2	645332	3679.98	17.22	18.00	1.197	-	-	0.04	0.615	0.736
	FR1 n48	40M	QPSK	50	28	DFT-30	Right Cheek	0mm	Ant 4	DSI 2	641666	3624.99	17.18	18.00	1.208	-	-	-0.19	0.643	0.777
	FR1 n48	40M	QPSK	50	28	DFT-30	Right Tilted	0mm	Ant 4	DSI 2	641666	3624.99	17.18	18.00	1.208	-	-	-0.03	0.271	0.327
	FR1 n48	40M	QPSK	50	28	DFT-30	Left Cheek	0mm	Ant 4	DSI 2	641666	3624.99	17.18	18.00	1.208	-	-	-0.11	0.112	0.135
	FR1 n48	40M	QPSK	50	28	DFT-30	Left Tilted	0mm	Ant 4	DSI 2	641666	3624.99	17.18	18.00	1.208	-	-	0.11	0.100	0.121
	FR1 n48	40M	QPSK	50	28	DFT-30	Right Cheek	0mm	Ant 4	DSI 2	638000	3570	17.15	18.00	1.216	-	-	-0.06	0.633	0.770
	FR1 n48	40M	QPSK	50	28	DFT-30	Right Cheek	0mm	Ant 4	DSI 2	645332	3679.98	17.13	18.00	1.222	-	-	0.03	0.594	0.726
	FR1 n48	40M	QPSK	100	0	DFT-30	Right Cheek	0mm	Ant 4	DSI 2	641666	3624.99	17.13	18.00	1.222	-	-	0.18	0.614	0.750
	FR1 n48	40M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 7	DSI 2	638000	3570	22.73	24.00	1.340	-	-	0.07	0.108	0.145
	FR1 n48	40M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 7	DSI 2	638000	3570	22.73	24.00	1.340	-	-	0.16	0.118	0.158
	FR1 n48	40M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 7	DSI 2	638000	3570	22.73	24.00	1.340	-	-	0.04	0.122	0.163
	FR1 n48	40M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 7	DSI 2	638000	3570	22.73	24.00	1.340	-	-	0.17	0.132	0.177
	FR1 n48	40M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 7	DSI 2	641666	3624.99	22.55	24.00	1.396	-	-	-0.13	0.151	0.211
	FR1 n48	40M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 7	DSI 2	645332	3679.98	22.34	24.00	1.466	-	-	0.08	0.105	0.154
	FR1 n48	40M	QPSK	50	28	DFT-30	Right Cheek	0mm	Ant 7	DSI 2	638000	3570	22.64	24.00	1.368	-	-	0.05	0.103	0.141
	FR1 n48	40M	QPSK	50	28	DFT-30	Right Tilted	0mm	Ant 7	DSI 2	638000	3570	22.64	24.00	1.368	-	-	0.02	0.125	0.171
	FR1 n48	40M	QPSK	50	28	DFT-30	Left Cheek	0mm	Ant 7	DSI 2	638000	3570	22.64	24.00	1.368	-	-	-0.06	0.116	0.159
	FR1 n48	40M	QPSK	50	28	DFT-30	Left Tilted	0mm	Ant 7	DSI 2	638000	3570	22.64	24.00	1.368	-	-	0.02	0.127	0.174
	FR1 n48	40M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 10	DSI 2	641666	3624.99	23.10	24.00	1.230	-	-	0.07	0.077	0.095
	FR1 n48	40M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 10	DSI 2	641666	3624.99	23.10	24.00	1.230	-	-	-	n/a	n/a
	FR1 n48	40M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 10	DSI 2	641666	3624.99	23.10	24.00	1.230	-	-	-0.04	0.086	0.106
	FR1 n48	40M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 10	DSI 2	641666	3624.99	23.10	24.00	1.230	-	-	-	n/a	n/a
	FR1 n48	40M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 10	DSI 2	638000	3570	23.08	24.00	1.236	-	-	-0.16	0.101	0.125
	FR1 n48	40M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 10	DSI 2	645332	3679.98	23.05	24.00	1.245	-	-	-0.06	0.050	0.062
	FR1 n48	40M	QPSK	50	28	DFT-30	Right Cheek	0mm	Ant 10	DSI 2	641666	3624.99	22.93	24.00	1.279	-	-	-0.01	0.068	0.087



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	FR1 n48	40M	QPSK	50	28	DFT-30	Right Tilted	0mm	Ant 10	DSI 2	641666	3624.99	22.93	24.00	1.279	-	-	-	n/a	n/a
	FR1 n48	40M	QPSK	50	28	DFT-30	Left Cheek	0mm	Ant 10	DSI 2	641666	3624.99	22.93	24.00	1.279	-	-	0.15	0.076	0.097
	FR1 n48	40M	QPSK	50	28	DFT-30	Left Tilted	0mm	Ant 10	DSI 2	641666	3624.99	22.93	24.00	1.279	-	-	-	n/a	n/a
	FR1 n48	40M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 8	DSI 2	641666	3624.99	16.23	17.50	1.340	-	-	0.01	0.182	0.244
	FR1 n48	40M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 8	DSI 2	641666	3624.99	16.23	17.50	1.340	-	-	-0.09	0.212	0.284
	FR1 n48	40M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 8	DSI 2	641666	3624.99	16.23	17.50	1.340	-	-	0.13	0.336	0.450
	FR1 n48	40M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 8	DSI 2	641666	3624.99	16.23	17.50	1.340	-	-	-0.05	0.360	0.482
	FR1 n48	40M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 8	DSI 2	638000	3570	16.19	17.50	1.352	-	-	0.01	0.360	0.487
	FR1 n48	40M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 8	DSI 2	645332	3679.98	15.99	17.50	1.416	-	-	0.04	0.338	0.479
	FR1 n48	40M	QPSK	50	28	DFT-30	Right Cheek	0mm	Ant 8	DSI 2	641666	3624.99	16.15	17.50	1.365	-	-	0.05	0.222	0.303
	FR1 n48	40M	QPSK	50	28	DFT-30	Right Tilted	0mm	Ant 8	DSI 2	641666	3624.99	16.15	17.50	1.365	-	-	-0.07	0.198	0.270
	FR1 n48	40M	QPSK	50	28	DFT-30	Left Cheek	0mm	Ant 8	DSI 2	641666	3624.99	16.15	17.50	1.365	-	-	0.12	0.327	0.446
	FR1 n48	40M	QPSK	50	28	DFT-30	Left Tilted	0mm	Ant 8	DSI 2	641666	3624.99	16.15	17.50	1.365	-	-	0.16	0.327	0.446
	FR1 n48	40M	QPSK	50	28	DFT-30	Left Tilted	0mm	Ant 8	DSI 2	638000	3570	16.11	17.50	1.377	-	-	0.04	0.356	0.490
	FR1 n48	40M	QPSK	50	28	DFT-30	Left Tilted	0mm	Ant 8	DSI 2	645332	3679.98	15.93	17.50	1.435	-	-	0.16	0.385	0.553
28	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 4	DSI 2	633332	3499.98	17.75	18.50	1.189	-	-	-0.03	0.656	0.780
	FR1 n77 HPUE_Other PA	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 4	DSI 2	633332	3499.98	17.19	18.50	1.352	-	-	-0.01	0.554	0.749
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 4	DSI 2	633332	3499.98	17.75	18.50	1.189	-	-	0.14	0.219	0.260
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 4	DSI 2	633332	3499.98	17.75	18.50	1.189	-	-	0	0.108	0.128
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 4	DSI 2	633332	3499.98	17.75	18.50	1.189	-	-	0.03	0.096	0.114
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 4	DSI 2	633332	3499.98	17.69	18.50	1.205	-	-	0.04	0.544	0.656
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 4	DSI 2	633332	3499.98	17.69	18.50	1.205	-	-	-0.06	0.189	0.228
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 4	DSI 2	633332	3499.98	17.69	18.50	1.205	-	-	-0.19	0.098	0.118
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 4	DSI 2	633332	3499.98	17.69	18.50	1.205	-	-	0.01	0.076	0.092
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 4	DSI 2	656000	3840	17.80	18.50	1.175	-	-	-0.05	0.564	0.663
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 4	DSI 2	656000	3840	17.80	18.50	1.175	-	-	-0.05	0.210	0.247
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 4	DSI 2	656000	3840	17.80	18.50	1.175	-	-	-0.11	0.095	0.112
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 4	DSI 2	656000	3840	17.80	18.50	1.175	-	-	0.07	0.066	0.078
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 4	DSI 2	656000	3840	17.77	18.50	1.183	-	-	0.04	0.554	0.655
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 4	DSI 2	656000	3840	17.77	18.50	1.183	-	-	0.16	0.192	0.227
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 4	DSI 2	656000	3840	17.77	18.50	1.183	-	-	-0.05	0.086	0.102
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 4	DSI 2	656000	3840	17.77	18.50	1.183	-	-	0.03	0.063	0.075
	FR1 n77 HPUE	100M	QPSK	270	0	DFT-30	Right Cheek	0mm	Ant 4	DSI 2	656000	3840	17.75	18.50	1.189	-	-	0.14	0.529	0.629
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 7	DSI 2	633332	3499.98	23.01	24.00	1.256	-	-	-0.1	0.156	0.196
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 7	DSI 2	633332	3499.98	23.01	24.00	1.256	-	-	-0.18	0.159	0.200
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 7	DSI 2	633332	3499.98	23.01	24.00	1.256	-	-	-0.09	0.186	0.234
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 7	DSI 2	633332	3499.98	23.01	24.00	1.256	-	-	-0.05	0.195	0.245
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 7	DSI 2	633332	3499.98	22.86	24.00	1.300	-	-	0.08	0.091	0.118
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 7	DSI 2	633332	3499.98	22.86	24.00	1.300	-	-	0.07	0.100	0.130
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 7	DSI 2	633332	3499.98	22.86	24.00	1.300	-	-	0.18	0.111	0.144
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 7	DSI 2	633332	3499.98	22.86	24.00	1.300	-	-	0.18	0.120	0.156
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 7	DSI 2	656000	3840	23.09	24.00	1.233	-	-	0.03	0.122	0.150
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 7	DSI 2	656000	3840	23.09	24.00	1.233	-	-	-0.1	0.137	0.169
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 7	DSI 2	656000	3840	23.09	24.00	1.233	-	-	-0.1	0.165	0.203
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 7	DSI 2	656000	3840	23.09	24.00	1.233	-	-	-0.07	0.170	0.210
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 7	DSI 2	656000	3840	22.97	24.00	1.268	-	-	-0.12	0.140	0.177
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 7	DSI 2	656000	3840	22.97	24.00	1.268	-	-	0.17	0.181	0.229
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 7	DSI 2	656000	3840	22.97	24.00	1.268	-	-	-0.12	0.208	0.264
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 7	DSI 2	656000	3840	22.97	24.00	1.268	-	-	-0.04	0.228	0.289
	FR1 n77 HPUE_Other PA	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 7	DSI 2	656000	3840	23.09	24.00	1.233	-	-	-0.12	0.260	0.321
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 10	DSI 2	633332	3499.98	26.15	27.00	1.216	-	-	0.16	0.162	0.197
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 10	DSI 2	633332	3499.98	26.15	27.00	1.216	-	-	0.16	0.048	0.058
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 10	DSI 2	633332	3499.98	26.15	27.00	1.216	-	-	0.01	0.213	0.259
	FR1 n77 HPUE_Other PA	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 10	DSI 2	633332	3499.98	24.13	25.00	1.222	-	-	0.03	0.160	0.195
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 10	DSI 2	633332	3499.98	26.15	27.00	1.216	-	-	0.14	0.058	0.071
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 10	DSI 2	633332	3499.98	25.92	27.00	1.282	-	-	0.06	0.101	0.130



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	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 10	DSI 2	633332	3499.98	25.92	27.00	1.282	-	-	0.02	0.032	0.041
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 10	DSI 2	633332	3499.98	25.92	27.00	1.282	-	-	0.07	0.138	0.177
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 10	DSI 2	633332	3499.98	25.92	27.00	1.282	-	-	0.17	0.035	0.045
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 10	DSI 2	656000	3840	25.88	27.00	1.294	-	-	-0.06	0.041	0.053
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 10	DSI 2	656000	3840	25.88	27.00	1.294	-	-	-0.17	0.012	0.016
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 10	DSI 2	656000	3840	25.88	27.00	1.294	-	-	-0.11	0.054	0.070
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 10	DSI 2	656000	3840	25.88	27.00	1.294	-	-	-0.11	0.040	0.052
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 10	DSI 2	656000	3840	25.62	27.00	1.374	-	-	0.16	0.025	0.034
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 10	DSI 2	656000	3840	25.62	27.00	1.374	-	-	0.14	0.008	0.011
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 10	DSI 2	656000	3840	25.62	27.00	1.374	-	-	0.12	0.035	0.048
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 10	DSI 2	656000	3840	25.62	27.00	1.374	-	-	-0.14	0.009	0.012
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 8	DSI 2	633332	3499.98	14.42	15.50	1.282	-	-	-0.11	0.122	0.156
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 8	DSI 2	633332	3499.98	14.42	15.50	1.282	-	-	0.04	0.169	0.217
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 8	DSI 2	633332	3499.98	14.42	15.50	1.282	-	-	0.07	0.265	0.340
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 8	DSI 2	633332	3499.98	14.42	15.50	1.282	-	-	0.17	0.341	0.437
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 8	DSI 2	633332	3499.98	14.38	15.50	1.294	-	-	0.11	0.115	0.149
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 8	DSI 2	633332	3499.98	14.38	15.50	1.294	-	-	-0.1	0.153	0.198
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 8	DSI 2	633332	3499.98	14.38	15.50	1.294	-	-	-0.01	0.260	0.336
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 8	DSI 2	633332	3499.98	14.38	15.50	1.294	-	-	-0.03	0.331	0.428
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 8	DSI 2	656000	3840	14.18	15.50	1.355	-	-	0.18	0.184	0.249
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 8	DSI 2	656000	3840	14.18	15.50	1.355	-	-	-0.18	0.210	0.285
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 8	DSI 2	656000	3840	14.18	15.50	1.355	-	-	-0.01	0.321	0.435
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 8	DSI 2	656000	3840	14.18	15.50	1.355	-	-	0.03	0.436	0.591
	FR1 n77 HPUE _Other PA	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 8	DSI 2	656000	3840	14.29	15.50	1.321	-	-	-0.06	0.339	0.448
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 8	DSI 2	656000	3840	13.89	15.50	1.449	-	-	-0.05	0.174	0.252
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 8	DSI 2	656000	3840	13.89	15.50	1.449	-	-	0.13	0.202	0.293
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 8	DSI 2	656000	3840	13.89	15.50	1.449	-	-	-0.09	0.305	0.442
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 8	DSI 2	656000	3840	13.89	15.50	1.449	-	-	-0.14	0.371	0.537
	FR1 n78 HPUE	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 7	DSI 2	633332	3499.98	22.80	24.00	1.318	-	-	0.05	0.107	0.141
	FR1 n78 HPUE	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 7	DSI 2	633332	3499.98	22.80	24.00	1.318	-	-	-0.05	0.125	0.165
	FR1 n78 HPUE	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 7	DSI 2	633332	3499.98	22.80	24.00	1.318	-	-	0.05	0.111	0.146
	FR1 n78 HPUE	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 7	DSI 2	633332	3499.98	22.80	24.00	1.318	-	-	-0.05	0.125	0.165
	FR1 n78 HPUE	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 7	DSI 2	633332	3499.98	22.77	24.00	1.327	-	-	0.17	0.093	0.123
	FR1 n78 HPUE	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 7	DSI 2	633332	3499.98	22.77	24.00	1.327	-	-	0.11	0.089	0.118
	FR1 n78 HPUE	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 7	DSI 2	633332	3499.98	22.77	24.00	1.327	-	-	-0.19	0.088	0.117
	FR1 n78 HPUE	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 7	DSI 2	633332	3499.98	22.77	24.00	1.327	-	-	0.06	0.090	0.119
	FR1 n78 HPUE	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 7	DSI 2	650000	3750	23.05	24.00	1.245	-	-	0.07	0.169	0.210
	FR1 n78 HPUE	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 7	DSI 2	650000	3750	23.05	24.00	1.245	-	-	0.11	0.197	0.245
	FR1 n78 HPUE	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 7	DSI 2	650000	3750	23.05	24.00	1.245	-	-	0.06	0.183	0.228
	FR1 n78 HPUE	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 7	DSI 2	650000	3750	23.05	24.00	1.245	-	-	0.14	0.177	0.220
	FR1 n78 HPUE	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 7	DSI 2	650000	3750	22.97	24.00	1.268	-	-	0.03	0.161	0.204
	FR1 n78 HPUE	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 7	DSI 2	650000	3750	22.97	24.00	1.268	-	-	-0.11	0.214	0.271
29	FR1 n78 HPUE	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 7	DSI 2	650000	3750	22.97	24.00	1.268	-	-	0.19	0.219	0.278
	FR1 n78 HPUE _Other PA	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 7	DSI 2	650000	3750	23.27	24.00	1.183	-	-	0.02	0.223	0.264
	FR1 n78 HPUE	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 7	DSI 2	650000	3750	22.97	24.00	1.268	-	-	0	0.217	0.275



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
2450MHz																
	Bluetooth	DH5 1Mbps	Right Cheek	0mm	Ant 3	level9	39	2441	11.90	12.50	1.148	77.17	1.296	-0.19	0.067	0.100
	Bluetooth	DH5 1Mbps	Right Tilted	0mm	Ant 3	level9	39	2441	11.90	12.50	1.148	77.17	1.296	0.05	0.054	0.080
	Bluetooth	DH5 1Mbps	Left Cheek	0mm	Ant 3	level9	39	2441	11.90	12.50	1.148	77.17	1.296	-0.13	0.157	0.234
	Bluetooth	DH5 1Mbps	Left Tilted	0mm	Ant 3	level9	39	2441	11.90	12.50	1.148	77.17	1.296	0.14	0.092	0.137
30	Bluetooth	DH5 1Mbps	Left Cheek	0mm	Ant 3	level9	0	2402	11.30	12.50	1.318	77.17	1.296	0.01	0.173	0.296
	Bluetooth	DH5 1Mbps	Left Cheek	0mm	Ant 3	level9	78	2480	9.50	11.00	1.413	77.17	1.296	0.02	0.111	0.203
	Bluetooth	DH5 1Mbps	Right Cheek	0mm	Ant 5	level9	39	2441	14.00	14.50	1.122	76.78	1.302	-0.03	0.064	0.093
	Bluetooth	DH5 1Mbps	Right Tilted	0mm	Ant 5	level9	39	2441	14.00	14.50	1.122	76.78	1.302	0.12	0.035	0.051
	Bluetooth	DH5 1Mbps	Left Cheek	0mm	Ant 5	level9	39	2441	14.00	14.50	1.122	76.78	1.302	0.18	0.180	0.263
	Bluetooth	DH5 1Mbps	Left Tilted	0mm	Ant 5	level9	39	2441	14.00	14.50	1.122	76.78	1.302	0.14	0.047	0.069
	Bluetooth	DH5 1Mbps	Left Cheek	0mm	Ant 5	level9	0	2402	13.00	14.50	1.413	76.78	1.302	-0.18	0.108	0.199
	Bluetooth	DH5 1Mbps	Left Cheek	0mm	Ant 5	level9	78	2480	11.80	13.00	1.318	76.78	1.302	-0.09	0.092	0.158
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 3+5(5)	Standalone	6	2437	16.70	18.50	1.514	100	1.000	0.1	0.386	0.584
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 3+5(5)	Standalone	6	2437	16.70	18.50	1.514	100	1.000	0.16	0.224	0.339
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3+5(5)	Standalone	6	2437	16.70	18.50	1.514	100	1.000	0.16	0.676	1.023
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 3+5(5)	Standalone	6	2437	16.70	18.50	1.514	100	1.000	0.14	0.467	0.707
31	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3+5(5)	Standalone	1	2412	16.50	18.50	1.585	100	1.000	0.15	0.750	1.189
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3+5(5)	Standalone	11	2462	16.60	18.50	1.549	100	1.000	-0.11	0.634	0.982
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 3+5(5)	Simultaneous	6	2437	11.70	13.50	1.514	100	1.000	0.02	0.114	0.173
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 3+5(5)	Simultaneous	6	2437	11.70	13.50	1.514	100	1.000	-0.17	0.070	0.106
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3+5(5)	Simultaneous	6	2437	11.70	13.50	1.514	100	1.000	0.18	0.207	0.313
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 3+5(5)	Simultaneous	6	2437	11.70	13.50	1.514	100	1.000	0.04	0.140	0.212
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3+5(5)	Simultaneous	1	2412	11.60	13.50	1.549	100	1.000	0.05	0.241	0.373
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3+5(5)	Simultaneous	11	2462	11.60	13.50	1.549	100	1.000	0.02	0.191	0.296
5000MHz																
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7+5(7)	Standalone	58	5290	17.60	19.50	1.549	100	1.000	-0.1	0.128	0.198
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7+5(7)	Standalone	58	5290	17.60	19.50	1.549	100	1.000	-0.08	0.150	0.232
32	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7+5(7)	Standalone	58	5290	17.60	19.50	1.549	100	1.000	-0.03	0.316	0.489
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7+5(7)	Standalone	58	5290	17.60	19.50	1.549	100	1.000	-0.14	0.201	0.311
	WLAN5.3GHz	802.11ac-VHT160 MCS0	Right Cheek	0mm	Ant 7+5(7)	Simultaneous	50	5250	16.72	18.50	1.507	100	1.000	0.14	0.138	0.208
	WLAN5.3GHz	802.11ac-VHT160 MCS0	Right Tilted	0mm	Ant 7+5(7)	Simultaneous	50	5250	16.72	18.50	1.507	100	1.000	-0.09	0.143	0.215
	WLAN5.3GHz	802.11ac-VHT160 MCS0	Left Cheek	0mm	Ant 7+5(7)	Simultaneous	50	5250	16.72	18.50	1.507	100	1.000	-0.08	0.255	0.384
	WLAN5.3GHz	802.11ac-VHT160 MCS0	Left Tilted	0mm	Ant 7+5(7)	Simultaneous	50	5250	16.72	18.50	1.507	100	1.000	0.09	0.185	0.279
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7+5(5)	Standalone	106	5530	17.75	19.50	1.496	100	1.000	-0.07	0.157	0.235
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7+5(5)	Standalone	106	5530	17.75	19.50	1.496	100	1.000	-0.13	0.121	0.181
33	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7+5(5)	Standalone	106	5530	17.75	19.50	1.496	100	1.000	0.01	0.594	0.889
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7+5(5)	Standalone	106	5530	17.75	19.50	1.496	100	1.000	0.07	0.226	0.338
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7+5(5)	Simultaneous	106	5530	13.17	15.00	1.524	100	1.000	0.03	0.071	0.108
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7+5(5)	Simultaneous	106	5530	13.17	15.00	1.524	100	1.000	0.17	0.076	0.116
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7+5(5)	Simultaneous	106	5530	13.17	15.00	1.524	100	1.000	0.14	0.232	0.354
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7+5(5)	Simultaneous	106	5530	13.17	15.00	1.524	100	1.000	-0.15	0.097	0.148
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7+5(5)	Standalone	155	5775	15.73	17.50	1.503	100	1.000	0.14	0.146	0.219
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7+5(5)	Standalone	155	5775	15.73	17.50	1.503	100	1.000	-0.17	0.094	0.141
34	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7+5(5)	Standalone	155	5775	15.73	17.50	1.503	100	1.000	0.19	0.762	1.145
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7+5(5)	Standalone	155	5775	15.73	17.50	1.503	100	1.000	0.13	0.240	0.361
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7+5(5)	Simultaneous	155	5775	10.70	12.50	1.514	100	1.000	0.03	0.072	0.109
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7+5(5)	Simultaneous	155	5775	10.70	12.50	1.514	100	1.000	-0.02	0.062	0.094
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7+5(5)	Simultaneous	155	5775	10.70	12.50	1.514	100	1.000	0.04	0.260	0.394
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7+5(5)	Simultaneous	155	5775	10.70	12.50	1.514	100	1.000	-0.05	0.075	0.114



16.2 Hotspot SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
750MHz																				
35	LTE Band 71	20M	QPSK	1	49	-	Front	5mm	Ant 0	DSI 7	133297	680.5	22.83	24.00	1.309	-	-	0.11	0.463	0.606
	LTE Band 71	20M	QPSK	1	49	-	Back	5mm	Ant 0	DSI 7	133297	680.5	22.83	24.00	1.309	-	-	0.01	0.753	0.986
	LTE Band 71	20M	QPSK	1	49	-	Left side	5mm	Ant 0	DSI 7	133297	680.5	22.83	24.00	1.309	-	-	-0.09	0.297	0.389
	LTE Band 71	20M	QPSK	1	49	-	Right side	5mm	Ant 0	DSI 7	133297	680.5	22.83	24.00	1.309	-	-	-0.08	0.328	0.429
	LTE Band 71	20M	QPSK	1	49	-	Bottom side	5mm	Ant 0	DSI 7	133297	680.5	22.83	24.00	1.309	-	-	-0.02	0.387	0.507
	LTE Band 71	20M	QPSK	50	0	-	Front	5mm	Ant 0	DSI 7	133297	680.5	22.73	24.00	1.340	-	-	0.01	0.437	0.585
	LTE Band 71	20M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	133297	680.5	22.73	24.00	1.340	-	-	0.12	0.711	0.953
	LTE Band 71	20M	QPSK	50	0	-	Left side	5mm	Ant 0	DSI 7	133297	680.5	22.73	24.00	1.340	-	-	-0.05	0.280	0.375
	LTE Band 71	20M	QPSK	50	0	-	Right side	5mm	Ant 0	DSI 7	133297	680.5	22.73	24.00	1.340	-	-	0.19	0.310	0.415
	LTE Band 71	20M	QPSK	50	0	-	Bottom side	5mm	Ant 0	DSI 7	133297	680.5	22.73	24.00	1.340	-	-	0	0.365	0.489
	LTE Band 71	20M	QPSK	100	0	-	Back	5mm	Ant 0	DSI 7	133297	680.5	22.71	24.00	1.346	-	-	0.15	0.683	0.919
	LTE Band 71	20M	QPSK	1	49	-	Front	5mm	Ant 1	DSI 7	133297	680.5	22.28	23.50	1.324	-	-	-0.08	0.185	0.245
	LTE Band 71	20M	QPSK	1	49	-	Back	5mm	Ant 1	DSI 7	133297	680.5	22.28	23.50	1.324	-	-	0.14	0.454	0.601
	LTE Band 71	20M	QPSK	1	49	-	Left side	5mm	Ant 1	DSI 7	133297	680.5	22.28	23.50	1.324	-	-	-0.18	0.265	0.351
	LTE Band 71	20M	QPSK	1	49	-	Top side	5mm	Ant 1	DSI 7	133297	680.5	22.28	23.50	1.324	-	-	0.09	0.423	0.560
	LTE Band 71	20M	QPSK	50	0	-	Front	5mm	Ant 1	DSI 7	133297	680.5	22.25	23.50	1.334	-	-	0.15	0.126	0.168
	LTE Band 71	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 7	133297	680.5	22.25	23.50	1.334	-	-	-0.08	0.362	0.483
	LTE Band 71	20M	QPSK	50	0	-	Left side	5mm	Ant 1	DSI 7	133297	680.5	22.25	23.50	1.334	-	-	0.03	0.226	0.301
	LTE Band 71	20M	QPSK	50	0	-	Top side	5mm	Ant 1	DSI 7	133297	680.5	22.25	23.50	1.334	-	-	0.16	0.349	0.465
	LTE Band 12	10M	QPSK	1	25	-	Front	5mm	Ant 0	DSI 7	23095	707.5	23.04	24.00	1.247	-	-	0.09	0.617	0.770
36	LTE Band 12	10M	QPSK	1	25	-	Back	5mm	Ant 0	DSI 7	23095	707.5	23.04	24.00	1.247	-	-	-0.09	0.850	1.060
	LTE Band 12	10M	QPSK	1	25	-	Left side	5mm	Ant 0	DSI 7	23095	707.5	23.04	24.00	1.247	-	-	-0.01	0.241	0.301
	LTE Band 12	10M	QPSK	1	25	-	Right side	5mm	Ant 0	DSI 7	23095	707.5	23.04	24.00	1.247	-	-	0.18	0.300	0.374
	LTE Band 12	10M	QPSK	1	25	-	Bottom side	5mm	Ant 0	DSI 7	23095	707.5	23.04	24.00	1.247	-	-	0.11	0.580	0.723
	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 0	DSI 7	23095	707.5	23.01	24.00	1.256	-	-	-0.09	0.589	0.740
	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 0	DSI 7	23095	707.5	23.01	24.00	1.256	-	-	-0.08	0.812	1.020
	LTE Band 12	10M	QPSK	25	0	-	Left side	5mm	Ant 0	DSI 7	23095	707.5	23.01	24.00	1.256	-	-	-0.02	0.230	0.289
	LTE Band 12	10M	QPSK	25	0	-	Right side	5mm	Ant 0	DSI 7	23095	707.5	23.01	24.00	1.256	-	-	-0.14	0.286	0.359
	LTE Band 12	10M	QPSK	25	0	-	Bottom side	5mm	Ant 0	DSI 7	23095	707.5	23.01	24.00	1.256	-	-	0.01	0.554	0.696
	LTE Band 12	10M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	23095	707.5	22.97	24.00	1.268	-	-	-0.05	0.726	0.920
	LTE Band 12	10M	QPSK	1	25	-	Front	5mm	Ant 1	DSI 7	23095	707.5	22.43	23.50	1.279	-	-	0	0.195	0.249
	LTE Band 12	10M	QPSK	1	25	-	Back	5mm	Ant 1	DSI 7	23095	707.5	22.43	23.50	1.279	-	-	0.02	0.470	0.601
	LTE Band 12	10M	QPSK	1	25	-	Left side	5mm	Ant 1	DSI 7	23095	707.5	22.43	23.50	1.279	-	-	0.15	0.248	0.317
	LTE Band 12	10M	QPSK	1	25	-	Top side	5mm	Ant 1	DSI 7	23095	707.5	22.43	23.50	1.279	-	-	-0.14	0.413	0.528
	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 1	DSI 7	23095	707.5	22.40	23.50	1.288	-	-	0.14	0.186	0.240
	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 1	DSI 7	23095	707.5	22.40	23.50	1.288	-	-	-0.18	0.449	0.578
	LTE Band 12	10M	QPSK	25	0	-	Left side	5mm	Ant 1	DSI 7	23095	707.5	22.40	23.50	1.288	-	-	0.09	0.237	0.305
	LTE Band 12	10M	QPSK	25	0	-	Top side	5mm	Ant 1	DSI 7	23095	707.5	22.40	23.50	1.288	-	-	-0.1	0.394	0.508
	LTE Band 13	10M	QPSK	1	25	-	Front	5mm	Ant 0	DSI 7	23230	782	22.89	24.00	1.291	-	-	-0.08	0.550	0.710
	LTE Band 13	10M	QPSK	1	25	-	Back	5mm	Ant 0	DSI 7	23230	782	22.89	24.00	1.291	-	-	0.03	0.897	1.158
37	LTE Band 13	10M	QPSK	1	25	-	Left side	5mm	Ant 0	DSI 7	23230	782	22.89	24.00	1.291	-	-	0.16	0.244	0.315
	LTE Band 13	10M	QPSK	1	25	-	Right side	5mm	Ant 0	DSI 7	23230	782	22.89	24.00	1.291	-	-	0.18	0.350	0.452
	LTE Band 13	10M	QPSK	1	25	-	Bottom side	5mm	Ant 0	DSI 7	23230	782	22.89	24.00	1.291	-	-	-0.08	0.520	0.671
	LTE Band 13	10M	QPSK	25	0	-	Front	5mm	Ant 0	DSI 7	23230	782	22.88	24.00	1.294	-	-	-0.04	0.525	0.679
	LTE Band 13	10M	QPSK	25	0	-	Back	5mm	Ant 0	DSI 7	23230	782	22.88	24.00	1.294	-	-	0.09	0.857	1.109
	LTE Band 13	10M	QPSK	25	0	-	Left side	5mm	Ant 0	DSI 7	23230	782	22.88	24.00	1.294	-	-	-0.09	0.233	0.302
	LTE Band 13	10M	QPSK	25	0	-	Right side	5mm	Ant 0	DSI 7	23230	782	22.88	24.00	1.294	-	-	-0.01	0.334	0.432
	LTE Band 13	10M	QPSK	25	0	-	Bottom side	5mm	Ant 0	DSI 7	23230	782	22.88	24.00	1.294	-	-	0.18	0.497	0.643
	LTE Band 13	10M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	23230	782	22.82	24.00	1.312	-	-	0.01	0.713	0.936
	LTE Band 13	10M	QPSK	1	25	-	Front	5mm	Ant 1	DSI 7	23230	782	22.25	23.50	1.334	-	-	-0.08	0.156	0.208



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	LTE Band 13	10M	QPSK	1	25	-	Back	5mm	Ant 1	DSI 7	23230	782	22.25	23.50	1.334	-	-	-0.02	0.420	0.560
	LTE Band 13	10M	QPSK	1	25	-	Left side	5mm	Ant 1	DSI 7	23230	782	22.25	23.50	1.334	-	-	-0.14	0.118	0.157
	LTE Band 13	10M	QPSK	1	25	-	Top side	5mm	Ant 1	DSI 7	23230	782	22.25	23.50	1.334	-	-	0.01	0.389	0.519
	LTE Band 13	10M	QPSK	25	0	-	Front	5mm	Ant 1	DSI 7	23230	782	22.21	23.50	1.346	-	-	-0.05	0.149	0.201
	LTE Band 13	10M	QPSK	25	0	-	Back	5mm	Ant 1	DSI 7	23230	782	22.21	23.50	1.346	-	-	0.19	0.401	0.540
	LTE Band 13	10M	QPSK	25	0	-	Left side	5mm	Ant 1	DSI 7	23230	782	22.21	23.50	1.346	-	-	0	0.113	0.152
	LTE Band 13	10M	QPSK	25	0	-	Top side	5mm	Ant 1	DSI 7	23230	782	22.21	23.50	1.346	-	-	0.02	0.371	0.499
	LTE Band 14	10M	QPSK	1	25	-	Front	5mm	Ant 0	DSI 7	23330	793	22.76	24.00	1.330	-	-	-0.14	0.472	0.628
38	LTE Band 14	10M	QPSK	1	25	-	Back	5mm	Ant 0	DSI 7	23330	793	22.76	24.00	1.330	-	-	-0.08	0.794	1.056
	LTE Band 14	10M	QPSK	1	25	-	Left side	5mm	Ant 0	DSI 7	23330	793	22.76	24.00	1.330	-	-	0.14	0.218	0.290
	LTE Band 14	10M	QPSK	1	25	-	Right side	5mm	Ant 0	DSI 7	23330	793	22.76	24.00	1.330	-	-	-0.18	0.279	0.371
	LTE Band 14	10M	QPSK	1	25	-	Bottom side	5mm	Ant 0	DSI 7	23330	793	22.76	24.00	1.330	-	-	0.09	0.349	0.464
	LTE Band 14	10M	QPSK	25	0	-	Front	5mm	Ant 0	DSI 7	23330	793	22.74	24.00	1.337	-	-	0.15	0.451	0.603
	LTE Band 14	10M	QPSK	25	0	-	Back	5mm	Ant 0	DSI 7	23330	793	22.74	24.00	1.337	-	-	-0.08	0.758	1.013
	LTE Band 14	10M	QPSK	25	0	-	Left side	5mm	Ant 0	DSI 7	23330	793	22.74	24.00	1.337	-	-	0.03	0.208	0.278
	LTE Band 14	10M	QPSK	25	0	-	Right side	5mm	Ant 0	DSI 7	23330	793	22.74	24.00	1.337	-	-	0.16	0.266	0.356
	LTE Band 14	10M	QPSK	25	0	-	Bottom side	5mm	Ant 0	DSI 7	23330	793	22.74	24.00	1.337	-	-	0.18	0.333	0.445
	LTE Band 14	10M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	23330	793	22.71	24.00	1.346	-	-	-0.09	0.737	0.992
	LTE Band 14	10M	QPSK	1	25	-	Front	5mm	Ant 1	DSI 7	23330	793	21.03	22.50	1.403	-	-	-0.09	0.159	0.223
	LTE Band 14	10M	QPSK	1	25	-	Back	5mm	Ant 1	DSI 7	23330	793	21.03	22.50	1.403	-	-	-0.08	0.419	0.588
	LTE Band 14	10M	QPSK	1	25	-	Left side	5mm	Ant 1	DSI 7	23330	793	21.03	22.50	1.403	-	-	-0.02	0.151	0.212
	LTE Band 14	10M	QPSK	1	25	-	Top side	5mm	Ant 1	DSI 7	23330	793	21.03	22.50	1.403	-	-	-0.14	0.282	0.396
	LTE Band 14	10M	QPSK	25	0	-	Front	5mm	Ant 1	DSI 7	23330	793	20.98	22.50	1.419	-	-	0.12	0.152	0.216
	LTE Band 14	10M	QPSK	25	0	-	Back	5mm	Ant 1	DSI 7	23330	793	20.98	22.50	1.419	-	-	-0.05	0.400	0.568
	LTE Band 14	10M	QPSK	25	0	-	Left side	5mm	Ant 1	DSI 7	23330	793	20.98	22.50	1.419	-	-	0.19	0.144	0.204
	LTE Band 14	10M	QPSK	25	0	-	Top side	5mm	Ant 1	DSI 7	23330	793	20.98	22.50	1.419	-	-	0	0.269	0.382
	FR1 n71	30M	QPSK	1	1	DFT-15	Front	5mm	Ant 0	DSI 7	136100	680.5	23.12	24.00	1.225	-	-	-0.1	0.317	0.388
	FR1 n71	30M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	DSI 7	136100	680.5	23.12	24.00	1.225	-	-	0.15	0.456	0.558
	FR1 n71	30M	QPSK	1	1	DFT-15	Left side	5mm	Ant 0	DSI 7	136100	680.5	23.12	24.00	1.225	-	-	-0.08	0.242	0.296
	FR1 n71	30M	QPSK	1	1	DFT-15	Right side	5mm	Ant 0	DSI 7	136100	680.5	23.12	24.00	1.225	-	-	0.03	0.252	0.309
	FR1 n71	30M	QPSK	1	1	DFT-15	Bottom side	5mm	Ant 0	DSI 7	136100	680.5	23.12	24.00	1.225	-	-	0.16	0.302	0.370
	FR1 n71	30M	QPSK	80	40	DFT-15	Front	5mm	Ant 0	DSI 7	136100	680.5	22.75	24.00	1.334	-	-	-0.08	0.303	0.404
	FR1 n71	30M	QPSK	80	40	DFT-15	Back	5mm	Ant 0	DSI 7	136100	680.5	22.75	24.00	1.334	-	-	-0.09	0.415	0.553
	FR1 n71	30M	QPSK	80	40	DFT-15	Left side	5mm	Ant 0	DSI 7	136100	680.5	22.75	24.00	1.334	-	-	-0.04	0.231	0.308
	FR1 n71	30M	QPSK	80	40	DFT-15	Right side	5mm	Ant 0	DSI 7	136100	680.5	22.75	24.00	1.334	-	-	0.09	0.241	0.321
	FR1 n71	30M	QPSK	80	40	DFT-15	Bottom side	5mm	Ant 0	DSI 7	136100	680.5	22.75	24.00	1.334	-	-	-0.09	0.288	0.384
	FR1 n71	30M	QPSK	1	1	DFT-15	Front	5mm	Ant 1	DSI 7	136100	680.5	22.30	23.00	1.175	-	-	0.18	0.137	0.161
39	FR1 n71	30M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	DSI 7	136100	680.5	22.30	23.00	1.175	-	-	0.11	0.483	0.567
	FR1 n71	30M	QPSK	1	1	DFT-15	Left side	5mm	Ant 1	DSI 7	136100	680.5	22.30	23.00	1.175	-	-	0.01	0.201	0.236
	FR1 n71	30M	QPSK	1	1	DFT-15	Top side	5mm	Ant 1	DSI 7	136100	680.5	22.30	23.00	1.175	-	-	-0.09	0.405	0.476
	FR1 n71	30M	QPSK	80	40	DFT-15	Front	5mm	Ant 1	DSI 7	136100	680.5	22.29	23.00	1.178	-	-	-0.02	0.131	0.154
	FR1 n71	30M	QPSK	80	40	DFT-15	Back	5mm	Ant 1	DSI 7	136100	680.5	22.29	23.00	1.178	-	-	-0.14	0.461	0.543
	FR1 n71	30M	QPSK	80	40	DFT-15	Left side	5mm	Ant 1	DSI 7	136100	680.5	22.29	23.00	1.178	-	-	0.01	0.192	0.226
	FR1 n71	30M	QPSK	80	40	DFT-15	Top side	5mm	Ant 1	DSI 7	136100	680.5	22.29	23.00	1.178	-	-	0.12	0.387	0.456
	FR1 n12	15M	QPSK	1	1	DFT-15	Front	5mm	Ant 0	DSI 7	141500	707.5	23.01	24.00	1.256	-	-	0.19	0.315	0.396
40	FR1 n12	15M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	DSI 7	141500	707.5	23.01	24.00	1.256	-	-	0.03	0.593	0.745
	FR1 n12	15M	QPSK	1	1	DFT-15	Left side	5mm	Ant 0	DSI 7	141500	707.5	23.01	24.00	1.256	-	-	0.02	0.188	0.236
	FR1 n12	15M	QPSK	1	1	DFT-15	Right side	5mm	Ant 0	DSI 7	141500	707.5	23.01	24.00	1.256	-	-	0.15	0.218	0.274
	FR1 n12	15M	QPSK	1	1	DFT-15	Bottom side	5mm	Ant 0	DSI 7	141500	707.5	23.01	24.00	1.256	-	-	-0.14	0.288	0.362
	FR1 n12	15M	QPSK	36	22	DFT-15	Front	5mm	Ant 0	DSI 7	141500	707.5	22.96	24.00	1.271	-	-	0.14	0.311	0.395
	FR1 n12	15M	QPSK	36	22	DFT-15	Back	5mm	Ant 0	DSI 7	141500	707.5	22.96	24.00	1.271	-	-	-0.18	0.526	0.668
	FR1 n12	15M	QPSK	36	22	DFT-15	Left side	5mm	Ant 0	DSI 7	141500	707.5	22.96	24.00	1.271	-	-	0.09	0.172	0.219
	FR1 n12	15M	QPSK	36	22	DFT-15	Right side	5mm	Ant 0	DSI 7	141500	707.5	22.96	24.00	1.271	-	-	-0.1	0.192	0.244
	FR1 n12	15M	QPSK	36	22	DFT-15	Bottom side	5mm	Ant 0	DSI 7	141500	707.5	22.96	24.00	1.271	-	-	0.15	0.264	0.335
	FR1 n12	15M	QPSK	1	1	DFT-15	Front	5mm	Ant 1	DSI 7	141500	707.5	22.40	23.00	1.148	-	-	0.03	0.173	0.199
	FR1 n12	15M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	DSI 7	141500	707.5	22.40	23.00	1.148	-	-	0.16	0.527	0.605



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	FR1 n12	15M	QPSK	1	1	DFT-15	Left side	5mm	Ant 1	DSI 7	141500	707.5	22.40	23.00	1.148	-	-	0.18	0.254	0.292
	FR1 n12	15M	QPSK	1	1	DFT-15	Top side	5mm	Ant 1	DSI 7	141500	707.5	22.40	23.00	1.148	-	-	-0.08	0.526	0.604
	FR1 n12	15M	QPSK	36	22	DFT-15	Front	5mm	Ant 1	DSI 7	141500	707.5	22.38	23.00	1.153	-	-	-0.04	0.165	0.190
	FR1 n12	15M	QPSK	36	22	DFT-15	Back	5mm	Ant 1	DSI 7	141500	707.5	22.38	23.00	1.153	-	-	0.09	0.503	0.580
	FR1 n12	15M	QPSK	36	22	DFT-15	Left side	5mm	Ant 1	DSI 7	141500	707.5	22.38	23.00	1.153	-	-	-0.09	0.243	0.280
	FR1 n12	15M	QPSK	36	22	DFT-15	Top side	5mm	Ant 1	DSI 7	141500	707.5	22.38	23.00	1.153	-	-	-0.01	0.502	0.579
	FR1 n14	10M	QPSK	1	1	DFT-15	Front	5mm	Ant 0	DSI 7	158600	793	22.82	24.00	1.312	-	-	0.11	0.423	0.555
41	FR1 n14	10M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	DSI 7	158600	793	22.82	24.00	1.312	-	-	0.01	0.656	0.861
	FR1 n14	10M	QPSK	1	1	DFT-15	Left side	5mm	Ant 0	DSI 7	158600	793	22.82	24.00	1.312	-	-	-0.09	0.143	0.188
	FR1 n14	10M	QPSK	1	1	DFT-15	Right side	5mm	Ant 0	DSI 7	158600	793	22.82	24.00	1.312	-	-	-0.08	0.197	0.259
	FR1 n14	10M	QPSK	1	1	DFT-15	Bottom side	5mm	Ant 0	DSI 7	158600	793	22.82	24.00	1.312	-	-	-0.02	0.415	0.545
	FR1 n14	10M	QPSK	25	14	DFT-15	Front	5mm	Ant 0	DSI 7	158600	793	22.71	24.00	1.346	-	-	0.01	0.421	0.567
	FR1 n14	10M	QPSK	25	14	DFT-15	Back	5mm	Ant 0	DSI 7	158600	793	22.71	24.00	1.346	-	-	0.12	0.633	0.852
	FR1 n14	10M	QPSK	25	14	DFT-15	Left side	5mm	Ant 0	DSI 7	158600	793	22.71	24.00	1.346	-	-	-0.05	0.140	0.188
	FR1 n14	10M	QPSK	25	14	DFT-15	Right side	5mm	Ant 0	DSI 7	158600	793	22.71	24.00	1.346	-	-	0.19	0.194	0.261
	FR1 n14	10M	QPSK	25	14	DFT-15	Bottom side	5mm	Ant 0	DSI 7	158600	793	22.71	24.00	1.346	-	-	0	0.414	0.557
	FR1 n14	10M	QPSK	50	0	DFT-15	Back	5mm	Ant 0	DSI 7	158600	793	22.68	24.00	1.355	-	-	0.15	0.613	0.831
	FR1 n14	10M	QPSK	1	1	DFT-15	Front	5mm	Ant 1	DSI 7	158600	793	23.21	24.00	1.199	-	-	-0.08	0.271	0.325
	FR1 n14	10M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	DSI 7	158600	793	23.21	24.00	1.199	-	-	0.14	0.491	0.589
	FR1 n14	10M	QPSK	1	1	DFT-15	Left side	5mm	Ant 1	DSI 7	158600	793	23.21	24.00	1.199	-	-	-0.18	0.174	0.209
	FR1 n14	10M	QPSK	1	1	DFT-15	Top side	5mm	Ant 1	DSI 7	158600	793	23.21	24.00	1.199	-	-	0.09	0.487	0.584
	FR1 n14	10M	QPSK	25	14	DFT-15	Front	5mm	Ant 1	DSI 7	158600	793	23.11	24.00	1.227	-	-	0.15	0.298	0.366
	FR1 n14	10M	QPSK	25	14	DFT-15	Back	5mm	Ant 1	DSI 7	158600	793	23.11	24.00	1.227	-	-	-0.08	0.474	0.582
	FR1 n14	10M	QPSK	25	14	DFT-15	Left side	5mm	Ant 1	DSI 7	158600	793	23.11	24.00	1.227	-	-	0.03	0.208	0.255
	FR1 n14	10M	QPSK	25	14	DFT-15	Top side	5mm	Ant 1	DSI 7	158600	793	23.11	24.00	1.227	-	-	0.16	0.469	0.576
835MHz																				
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Front	5mm	Ant 0	DSI 7	189	836.4	27.93	28.80	1.222	-	-	-0.09	0.304	0.371
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant 0	DSI 7	189	836.4	27.93	28.80	1.222	-	-	-0.04	0.527	0.644
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Left side	5mm	Ant 0	DSI 7	189	836.4	27.93	28.80	1.222	-	-	0.09	0.071	0.087
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Right side	5mm	Ant 0	DSI 7	189	836.4	27.93	28.80	1.222	-	-	-0.09	0.158	0.193
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Bottom side	5mm	Ant 0	DSI 7	189	836.4	27.93	28.80	1.222	-	-	-0.01	0.256	0.313
42	GSM850	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant 0	DSI 7	128	824.2	27.82	28.80	1.253	-	-	0.18	0.782	0.980
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant 0	DSI 7	251	848.8	27.92	28.80	1.225	-	-	0.11	0.730	0.894
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	DSI 7	4182	836.4	22.27	24.00	1.489	-	-	-0.09	0.358	0.533
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	4182	836.4	22.27	24.00	1.489	-	-	-0.08	0.774	1.153
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left side	5mm	Ant 0	DSI 7	4182	836.4	22.27	24.00	1.489	-	-	-0.02	0.129	0.192
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right side	5mm	Ant 0	DSI 7	4182	836.4	22.27	24.00	1.489	-	-	-0.14	0.279	0.416
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom side	5mm	Ant 0	DSI 7	4182	836.4	22.27	24.00	1.489	-	-	0.01	0.311	0.463
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	4132	826.4	22.15	24.00	1.531	-	-	0.12	0.693	1.061
43	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	4233	846.6	22.25	24.00	1.496	-	-	-0.05	0.801	1.198
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	DSI 7	4182	836.4	20.72	21.90	1.312	-	-	-0.08	0.294	0.386
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 7	4182	836.4	20.72	21.90	1.312	-	-	0.14	0.422	0.554
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left side	5mm	Ant 1	DSI 7	4182	836.4	20.72	21.90	1.312	-	-	-0.18	0.118	0.155
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Top side	5mm	Ant 1	DSI 7	4182	836.4	20.72	21.90	1.312	-	-	0.09	0.331	0.434
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 7	4132	826.4	20.56	21.90	1.361	-	-	-0.1	0.328	0.447
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 7	4233	846.6	20.66	21.90	1.330	-	-	0.15	0.304	0.404
	LTE Band 26	15M	QPSK	1	37	-	Front	5mm	Ant 0	DSI 7	26865	831.5	22.66	24.00	1.361	-	-	-0.09	0.526	0.716
	LTE Band 26	15M	QPSK	1	37	-	Back	5mm	Ant 0	DSI 7	26865	831.5	22.66	24.00	1.361	-	-	-0.04	0.853	1.161
	LTE Band 26	15M	QPSK	1	37	-	Left side	5mm	Ant 0	DSI 7	26865	831.5	22.66	24.00	1.361	-	-	0.09	0.155	0.211
	LTE Band 26	15M	QPSK	1	37	-	Right side	5mm	Ant 0	DSI 7	26865	831.5	22.66	24.00	1.361	-	-	-0.09	0.127	0.173
	LTE Band 26	15M	QPSK	1	37	-	Bottom side	5mm	Ant 0	DSI 7	26865	831.5	22.66	24.00	1.361	-	-	-0.01	0.348	0.474
	LTE Band 26	15M	QPSK	1	37	-	Back	5mm	Ant 0	DSI 7	26765	821.5	22.47	24.00	1.422	-	-	0.18	0.782	1.112
44	LTE Band 26	15M	QPSK	1	37	-	Back	5mm	Ant 0	DSI 7	26965	841.5	22.62	24.00	1.374	-	-	0.11	0.888	1.220
	LTE Band 5B	10M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	20575+20476	841.5+831.6	22.54	24.00	1.400	-	-	-0.16	0.833	1.166



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	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 0	DSI 3/7	26865	831.5	22.61	24.00	1.377	-	-	-0.08	0.496	0.683
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 0	DSI 3/7	26865	831.5	22.61	24.00	1.377	-	-	-0.02	0.814	1.121
	LTE Band 26	15M	QPSK	36	0	-	Left side	5mm	Ant 0	DSI 7	26865	831.5	22.61	24.00	1.377	-	-	-0.14	0.167	0.230
	LTE Band 26	15M	QPSK	36	0	-	Right side	5mm	Ant 0	DSI 7	26865	831.5	22.61	24.00	1.377	-	-	0.01	0.117	0.161
	LTE Band 26	15M	QPSK	36	0	-	Bottom side	5mm	Ant 0	DSI 7	26865	831.5	22.61	24.00	1.377	-	-	0.12	0.324	0.446
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 0	DSI 3/7	26765	821.5	22.58	24.00	1.387	-	-	-0.05	0.779	1.080
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 0	DSI 3/7	26965	841.5	22.55	24.00	1.396	-	-	0.19	0.866	1.209
	LTE Band 26	15M	QPSK	75	0	-	Back	5mm	Ant 0	DSI 3/7	26865	831.5	22.57	24.00	1.390	-	-	0.15	0.822	1.143
	LTE Band 26	15M	QPSK	1	37	-	Front	5mm	Ant 1	DSI 7	26865	831.5	21.18	22.40	1.324	-	-	0.03	0.207	0.274
	LTE Band 26	15M	QPSK	1	37	-	Back	5mm	Ant 1	DSI 7	26865	831.5	21.18	22.40	1.324	-	-	0.16	0.422	0.559
	LTE Band 26	15M	QPSK	1	37	-	Left side	5mm	Ant 1	DSI 7	26865	831.5	21.18	22.40	1.324	-	-	0.18	0.208	0.275
	LTE Band 26	15M	QPSK	1	37	-	Top side	5mm	Ant 1	DSI 7	26865	831.5	21.18	22.40	1.324	-	-	-0.08	0.391	0.518
	LTE Band 26	15M	QPSK	1	37	-	Back	5mm	Ant 1	DSI 7	26765	821.5	21.08	22.40	1.355	-	-	-0.09	0.419	0.568
	LTE Band 5B	10M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	20575+20476	841.5+831.6	21.18	22.40	1.324	-	-	-0.15	0.406	0.538
	LTE Band 26	15M	QPSK	1	37	-	Back	5mm	Ant 1	DSI 7	26965	841.5	21.07	22.40	1.358	-	-	-0.04	0.406	0.551
	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 1	DSI 7	26865	831.5	21.16	22.40	1.330	-	-	-0.01	0.198	0.263
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 1	DSI 7	26865	831.5	21.16	22.40	1.330	-	-	0.18	0.403	0.536
	LTE Band 26	15M	QPSK	36	0	-	Left side	5mm	Ant 1	DSI 7	26865	831.5	21.16	22.40	1.330	-	-	0.11	0.199	0.265
	LTE Band 26	15M	QPSK	36	0	-	Top side	5mm	Ant 1	DSI 7	26865	831.5	21.16	22.40	1.330	-	-	0.01	0.373	0.496
	FR1 n26	20M	QPSK	1	1	DFT-15	Front	5mm	Ant 0	DSI 3/7	166300	831.5	23.09	24.00	1.233	-	-	0.15	0.393	0.485
45	FR1 n26	20M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	DSI 3/7	166300	831.5	23.09	24.00	1.233	-	-	-0.14	0.811	1.000
	FR1 n26	20M	QPSK	1	1	DFT-15	Left side	5mm	Ant 0	DSI 7	166300	831.5	23.09	24.00	1.233	-	-	-0.08	0.122	0.150
	FR1 n26	20M	QPSK	1	1	DFT-15	Right side	5mm	Ant 0	DSI 7	166300	831.5	23.09	24.00	1.233	-	-	0.14	0.197	0.243
	FR1 n26	20M	QPSK	1	1	DFT-15	Bottom side	5mm	Ant 0	DSI 7	166300	831.5	23.09	24.00	1.233	-	-	-0.18	0.498	0.614
	FR1 n26	20M	QPSK	50	28	DFT-15	Front	5mm	Ant 0	DSI 3/7	166300	831.5	22.96	24.00	1.271	-	-	-0.1	0.375	0.476
	FR1 n26	20M	QPSK	50	28	DFT-15	Back	5mm	Ant 0	DSI 3/7	166300	831.5	22.96	24.00	1.271	-	-	0.15	0.774	0.983
	FR1 n26	20M	QPSK	50	28	DFT-15	Left side	5mm	Ant 0	DSI 7	166300	831.5	22.96	24.00	1.271	-	-	-0.08	0.117	0.149
	FR1 n26	20M	QPSK	50	28	DFT-15	Right side	5mm	Ant 0	DSI 7	166300	831.5	22.96	24.00	1.271	-	-	0.03	0.188	0.239
	FR1 n26	20M	QPSK	50	28	DFT-15	Bottom side	5mm	Ant 0	DSI 7	166300	831.5	22.96	24.00	1.271	-	-	0.16	0.476	0.605
	FR1 n26	20M	QPSK	100	0	DFT-15	Back	5mm	Ant 0	DSI 3/7	166300	831.5	22.62	23.50	1.225	-	-	-0.08	0.723	0.885
	FR1 n26	20M	QPSK	1	1	DFT-15	Front	5mm	Ant 1	DSI 7	166300	831.5	20.79	21.50	1.178	-	-	0.19	0.178	0.210
	FR1 n26	20M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	DSI 7	166300	831.5	20.79	21.50	1.178	-	-	0	0.481	0.566
	FR1 n26	20M	QPSK	1	1	DFT-15	Left side	5mm	Ant 1	DSI 7	166300	831.5	20.79	21.50	1.178	-	-	0.02	0.103	0.121
	FR1 n26	20M	QPSK	1	1	DFT-15	Top side	5mm	Ant 1	DSI 7	166300	831.5	20.79	21.50	1.178	-	-	0.15	0.406	0.478
	FR1 n26	20M	QPSK	50	28	DFT-15	Front	5mm	Ant 1	DSI 7	166300	831.5	20.78	21.50	1.180	-	-	-0.08	0.197	0.233
	FR1 n26	20M	QPSK	50	28	DFT-15	Back	5mm	Ant 1	DSI 7	166300	831.5	20.78	21.50	1.180	-	-	0.14	0.456	0.538
	FR1 n26	20M	QPSK	50	28	DFT-15	Left side	5mm	Ant 1	DSI 7	166300	831.5	20.78	21.50	1.180	-	-	-0.18	0.100	0.118
	FR1 n26	20M	QPSK	50	28	DFT-15	Top side	5mm	Ant 1	DSI 7	166300	831.5	20.78	21.50	1.180	-	-	0.09	0.305	0.360
1750MHz																				
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	DSI 7	1413	1732.6	15.56	16.70	1.300	-	-	0.18	0.639	0.831
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	1413	1732.6	15.56	16.70	1.300	-	-	0.11	0.754	0.980
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left side	5mm	Ant 0	DSI 7	1413	1732.6	15.56	16.70	1.300	-	-	0.01	0.091	0.118
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right side	5mm	Ant 0	DSI 7	1413	1732.6	15.56	16.70	1.300	-	-	-	n/a	n/a
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom side	5mm	Ant 0	DSI 7	1413	1732.6	15.56	16.70	1.300	-	-	-0.08	0.763	0.992
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	DSI 7	1312	1712.4	15.34	16.70	1.368	-	-	0.01	0.602	0.823
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	DSI 7	1513	1752.6	15.54	16.70	1.306	-	-	0.08	0.621	0.811
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	1312	1712.4	15.34	16.70	1.368	-	-	-0.04	0.702	0.960
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	1513	1752.6	15.54	16.70	1.306	-	-	-0.06	0.711	0.929
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom side	5mm	Ant 0	DSI 7	1312	1712.4	15.34	16.70	1.368	-	-	-0.02	0.689	0.942
46	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom side	5mm	Ant 0	DSI 7	1513	1752.6	15.54	16.70	1.306	-	-	-0.14	0.802	1.048
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	DSI 7	1413	1732.6	16.03	17.40	1.371	-	-	0.09	0.207	0.284
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 7	1413	1732.6	16.03	17.40	1.371	-	-	-0.1	0.431	0.591
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left side	5mm	Ant 1	DSI 7	1413	1732.6	16.03	17.40	1.371	-	-	0.15	0.054	0.074
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top side	5mm	Ant 1	DSI 7	1413	1732.6	16.03	17.40	1.371	-	-	-0.08	0.420	0.576
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 7	1312	1712.4	16.02	17.40	1.374	-	-	0.03	0.444	0.610
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 7	1513	1752.6	15.97	17.40	1.390	-	-	0.16	0.435	0.605



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	LTE Band 66	20M	QPSK	1	49	-	Front	5mm	Ant 0	DSI 7	132322	1745	15.90	16.90	1.259	-	-	0.18	0.501	0.631
	LTE Band 66	20M	QPSK	1	49	-	Back	5mm	Ant 0	DSI 7	132322	1745	15.90	16.90	1.259	-	-	0.11	0.668	0.841
	LTE Band 66	20M	QPSK	1	49	-	Left side	5mm	Ant 0	DSI 7	132322	1745	15.90	16.90	1.259	-	-	0.01	0.098	0.123
	LTE Band 66	20M	QPSK	1	49	-	Right side	5mm	Ant 0	DSI 7	132322	1745	15.90	16.90	1.259	-	-	-	n/a	n/a
	LTE Band 66	20M	QPSK	1	49	-	Bottom side	5mm	Ant 0	DSI 7	132322	1745	15.90	16.90	1.259	-	-	-0.08	0.809	1.018
	LTE Band 66	20M	QPSK	1	49	-	Back	5mm	Ant 0	DSI 7	132072	1720	15.74	16.90	1.306	-	-	-0.02	0.586	0.765
	LTE Band 66	20M	QPSK	1	49	-	Back	5mm	Ant 0	DSI 7	132572	1770	15.83	16.90	1.279	-	-	-0.14	0.450	0.576
	LTE Band 66	20M	QPSK	1	49	-	Bottom side	5mm	Ant 0	DSI 7	132072	1720	15.74	16.90	1.306	-	-	0.01	0.572	0.747
47	LTE Band 66	20M	QPSK	1	49	-	Bottom side	5mm	Ant 0	DSI 7	132572	1770	15.83	16.90	1.279	-	-	0.12	0.868	1.111
	LTE Band 66C	20M	QPSK	1	0	-	Bottom side	5mm	Ant 0	DSI 7	132572+ 132374	1770+ 1750.2	15.81	16.90	1.285	-	-	-0.08	0.854	1.098
	LTE Band 66_Other PA	20M	QPSK	1	49	-	Bottom side	5mm	Ant 0	DSI 7	132572	1770	16.04	16.90	1.219	-	-	-0.05	0.789	0.962
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 0	DSI 7	132322	1745	15.86	16.90	1.271	-	-	0	0.478	0.607
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	132322	1745	15.86	16.90	1.271	-	-	0.02	0.638	0.811
	LTE Band 66	20M	QPSK	50	0	-	Left side	5mm	Ant 0	DSI 7	132322	1745	15.86	16.90	1.271	-	-	0.15	0.094	0.119
	LTE Band 66	20M	QPSK	50	0	-	Right side	5mm	Ant 0	DSI 7	132322	1745	15.86	16.90	1.271	-	-	-	n/a	n/a
	LTE Band 66	20M	QPSK	50	0	-	Bottom side	5mm	Ant 0	DSI 7	132322	1745	15.86	16.90	1.271	-	-	-0.08	0.773	0.982
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	132072	1720	15.73	16.90	1.309	-	-	0.14	0.560	0.733
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	132572	1770	15.76	16.90	1.300	-	-	-0.18	0.430	0.559
	LTE Band 66	20M	QPSK	50	0	-	Bottom side	5mm	Ant 0	DSI 7	132072	1720	15.73	16.90	1.309	-	-	0.09	0.546	0.715
	LTE Band 66	20M	QPSK	50	0	-	Bottom side	5mm	Ant 0	DSI 7	132572	1770	15.76	16.90	1.300	-	-	-0.1	0.829	1.078
	LTE Band 66	20M	QPSK	100	0	-	Back	5mm	Ant 0	DSI 7	132322	1745	15.84	16.90	1.276	-	-	-0.08	0.673	0.859
	LTE Band 66	20M	QPSK	100	0	-	Bottom side	5mm	Ant 0	DSI 7	132322	1745	15.84	16.90	1.276	-	-	0.03	0.755	0.964
	LTE Band 66	20M	QPSK	1	49	-	Front	5mm	Ant 1	DSI 7	132322	1745	15.48	16.50	1.265	-	-	0.09	0.167	0.211
	LTE Band 66	20M	QPSK	1	49	-	Back	5mm	Ant 1	DSI 7	132322	1745	15.48	16.50	1.265	-	-	-0.1	0.474	0.599
	LTE Band 66	20M	QPSK	1	49	-	Left side	5mm	Ant 1	DSI 7	132322	1745	15.48	16.50	1.265	-	-	0.15	0.102	0.129
	LTE Band 66	20M	QPSK	1	49	-	Top side	5mm	Ant 1	DSI 7	132322	1745	15.48	16.50	1.265	-	-	-0.08	0.459	0.581
	LTE Band 66	20M	QPSK	1	49	-	Back	5mm	Ant 1	DSI 7	132072	1720	15.43	16.50	1.279	-	-	0.03	0.479	0.613
	LTE Band 66C	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	132072+ 132270	1720+ 1740	15.37	16.50	1.297	-	-	0.08	0.466	0.604
	LTE Band 66_Other PA	20M	QPSK	1	49	-	Back	5mm	Ant 1	DSI 7	132072	1720	15.58	16.50	1.236	-	-	0.16	0.452	0.559
	LTE Band 66	20M	QPSK	1	49	-	Back	5mm	Ant 1	DSI 7	132572	1770	15.42	16.50	1.282	-	-	0.18	0.453	0.581
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 1	DSI 7	132322	1745	15.44	16.50	1.276	-	-	-0.09	0.163	0.208
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 7	132322	1745	15.44	16.50	1.276	-	-	-0.04	0.376	0.480
	LTE Band 66	20M	QPSK	50	0	-	Left side	5mm	Ant 1	DSI 7	132322	1745	15.44	16.50	1.276	-	-	0.09	0.097	0.124
	LTE Band 66	20M	QPSK	50	0	-	Top side	5mm	Ant 1	DSI 7	132322	1745	15.44	16.50	1.276	-	-	-0.09	0.438	0.559
	FR1 n70	15M	QPSK	1	1	DFT-15	Front	5mm	Ant 0	DSI 7	340500	1702.5	18.02	19.00	1.253	-	-	0	0.517	0.648
	FR1 n70	15M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	DSI 7	340500	1702.5	18.02	19.00	1.253	-	-	0.02	0.675	0.846
	FR1 n70	15M	QPSK	1	1	DFT-15	Left side	5mm	Ant 0	DSI 7	340500	1702.5	18.02	19.00	1.253	-	-	0.15	0.044	0.055
	FR1 n70	15M	QPSK	1	1	DFT-15	Right side	5mm	Ant 0	DSI 7	340500	1702.5	18.02	19.00	1.253	-	-	-0.14	0.042	0.053
48	FR1 n70	15M	QPSK	1	1	DFT-15	Bottom side	5mm	Ant 0	DSI 7	340500	1702.5	18.02	19.00	1.253	-	-	-0.08	0.932	1.168
	FR1 n70	15M	QPSK	36	22	DFT-15	Front	5mm	Ant 0	DSI 7	340500	1702.5	17.97	19.00	1.268	-	-	-0.18	0.494	0.626
	FR1 n70	15M	QPSK	36	22	DFT-15	Back	5mm	Ant 0	DSI 7	340500	1702.5	17.97	19.00	1.268	-	-	0.09	0.645	0.818
	FR1 n70	15M	QPSK	36	22	DFT-15	Left side	5mm	Ant 0	DSI 7	340500	1702.5	17.97	19.00	1.268	-	-	-0.1	0.042	0.053
	FR1 n70	15M	QPSK	36	22	DFT-15	Right side	5mm	Ant 0	DSI 7	340500	1702.5	17.97	19.00	1.268	-	-	0.15	0.040	0.051
	FR1 n70	15M	QPSK	36	22	DFT-15	Bottom side	5mm	Ant 0	DSI 7	340500	1702.5	17.97	19.00	1.268	-	-	-0.08	0.890	1.128
	FR1 n70	15M	QPSK	75	0	DFT-15	Back	5mm	Ant 0	DSI 7	340500	1702.5	17.95	19.00	1.274	-	-	0.16	0.630	0.802
	FR1 n70	15M	QPSK	75	0	DFT-15	Bottom side	5mm	Ant 0	DSI 7	340500	1702.5	17.95	19.00	1.274	-	-	0.18	0.870	1.108
	FR1 n70	15M	QPSK	1	1	DFT-15	Front	5mm	Ant 1	DSI 7	340500	1702.5	16.91	17.50	1.146	-	-	-0.08	0.207	0.237
	FR1 n70	15M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	DSI 7	340500	1702.5	16.91	17.50	1.146	-	-	-0.02	0.497	0.569
	FR1 n70	15M	QPSK	1	1	DFT-15	Left side	5mm	Ant 1	DSI 7	340500	1702.5	16.91	17.50	1.146	-	-	-0.14	0.061	0.070
	FR1 n70	15M	QPSK	1	1	DFT-15	Top side	5mm	Ant 1	DSI 7	340500	1702.5	16.91	17.50	1.146	-	-	0.01	0.414	0.474
	FR1 n70	15M	QPSK	36	22	DFT-15	Front	5mm	Ant 1	DSI 7	340500	1702.5	16.90	17.50	1.148	-	-	-0.05	0.198	0.227
	FR1 n70	15M	QPSK	36	22	DFT-15	Back	5mm	Ant 1	DSI 7	340500	1702.5	16.90	17.50	1.148	-	-	0.19	0.475	0.545
	FR1 n70	15M	QPSK	36	22	DFT-15	Left side	5mm	Ant 1	DSI 7	340500	1702.5	16.90	17.50	1.148	-	-	0	0.058	0.067
	FR1 n70	15M	QPSK	36	22	DFT-15	Top side	5mm	Ant 1	DSI 7	340500	1702.5	16.90	17.50	1.148	-	-	0.02	0.395	0.454
	FR1 n66	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 0	DSI 7	349000	1745	16.24	17.00	1.191	-	-	0.15	0.556	0.662



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	FR1 n66	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	DSI 7	349000	1745	16.24	17.00	1.191	-	-	-0.08	0.658	0.784
	FR1 n66	40M	QPSK	1	1	DFT-15	Left side	5mm	Ant 0	DSI 7	349000	1745	16.24	17.00	1.191	-	-	0.03	0.041	0.049
	FR1 n66	40M	QPSK	1	1	DFT-15	Right side	5mm	Ant 0	DSI 7	349000	1745	16.24	17.00	1.191	-	-	-	n/a	n/a
49	FR1 n66	40M	QPSK	1	1	DFT-15	Bottom side	5mm	Ant 0	DSI 7	349000	1745	16.24	17.00	1.191	-	-	0.18	0.957	1.140
	FR1 n66_Other PA	40M	QPSK	1	1	DFT-15	Bottom side	5mm	Ant 0	DSI 7	349000	1745	16.10	17.00	1.230	-	-	-0.08	0.913	1.123
	FR1 n66	40M	QPSK	108	54	DFT-15	Front	5mm	Ant 0	DSI 7	349000	1745	16.20	17.00	1.202	-	-	-0.04	0.531	0.638
	FR1 n66	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 0	DSI 7	349000	1745	16.20	17.00	1.202	-	-	0.09	0.650	0.781
	FR1 n66	40M	QPSK	108	54	DFT-15	Left side	5mm	Ant 0	DSI 7	349000	1745	16.20	17.00	1.202	-	-	-0.09	0.039	0.047
	FR1 n66	40M	QPSK	108	54	DFT-15	Right side	5mm	Ant 0	DSI 7	349000	1745	16.20	17.00	1.202	-	-	-	n/a	n/a
	FR1 n66	40M	QPSK	108	54	DFT-15	Bottom side	5mm	Ant 0	DSI 7	349000	1745	16.20	17.00	1.202	-	-	0.18	0.914	1.099
	FR1 n66	40M	QPSK	216	0	DFT-15	Bottom side	5mm	Ant 0	DSI 7	349000	1745	16.18	17.00	1.208	-	-	-0.09	0.902	1.089
	FR1 n66	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 1	DSI 7	349000	1745	16.14	17.00	1.219	-	-	-0.14	0.212	0.258
	FR1 n66	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	DSI 7	349000	1745	16.14	17.00	1.219	-	-	-0.08	0.435	0.530
	FR1 n66_Other PA	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	DSI 7	349000	1745	15.94	17.00	1.276	-	-	0.14	0.400	0.511
	FR1 n66	40M	QPSK	1	1	DFT-15	Left side	5mm	Ant 1	DSI 7	349000	1745	16.14	17.00	1.219	-	-	-0.18	0.053	0.065
	FR1 n66	40M	QPSK	1	1	DFT-15	Top side	5mm	Ant 1	DSI 7	349000	1745	16.14	17.00	1.219	-	-	0.09	0.359	0.438
	FR1 n66	40M	QPSK	108	54	DFT-15	Front	5mm	Ant 1	DSI 7	349000	1745	16.03	17.00	1.250	-	-	0.15	0.212	0.265
	FR1 n66	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 1	DSI 7	349000	1745	16.03	17.00	1.250	-	-	-0.08	0.435	0.544
	FR1 n66	40M	QPSK	108	54	DFT-15	Left side	5mm	Ant 1	DSI 7	349000	1745	16.03	17.00	1.250	-	-	0.03	0.053	0.066
	FR1 n66	40M	QPSK	108	54	DFT-15	Top side	5mm	Ant 1	DSI 7	349000	1745	16.03	17.00	1.250	-	-	0.16	0.359	0.449
1900MHz																				
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Front	5mm	Ant 0	DSI 7	661	1880	20.80	21.90	1.288	-	-	0.01	0.386	0.497
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant 0	DSI 7	661	1880	20.80	21.90	1.288	-	-	-0.09	0.477	0.614
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Left side	5mm	Ant 0	DSI 7	661	1880	20.80	21.90	1.288	-	-	-0.08	0.069	0.089
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Right side	5mm	Ant 0	DSI 7	661	1880	20.80	21.90	1.288	-	-	-	n/a	n/a
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Bottom side	5mm	Ant 0	DSI 7	661	1880	20.80	21.90	1.288	-	-	-0.14	0.717	0.924
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Bottom side	5mm	Ant 0	DSI 7	512	1850.2	20.60	21.90	1.349	-	-	0.01	0.809	1.091
50	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Bottom side	5mm	Ant 0	DSI 7	810	1909.8	20.65	21.90	1.334	-	-	0.12	0.892	1.190
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	DSI 7	9400	1880	14.55	15.70	1.303	-	-	0.14	0.390	0.508
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	9400	1880	14.55	15.70	1.303	-	-	-0.18	0.516	0.672
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left side	5mm	Ant 0	DSI 7	9400	1880	14.55	15.70	1.303	-	-	0.09	0.063	0.082
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right side	5mm	Ant 0	DSI 7	9400	1880	14.55	15.70	1.303	-	-	-	n/a	n/a
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom side	5mm	Ant 0	DSI 7	9400	1880	14.55	15.70	1.303	-	-	0.15	0.793	1.033
51	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom side	5mm	Ant 0	DSI 7	9262	1852.4	14.49	15.70	1.321	-	-	-0.08	0.862	1.139
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom side	5mm	Ant 0	DSI 7	9538	1907.6	14.48	15.70	1.324	-	-	0.03	0.790	1.046
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	DSI 7	9400	1880	16.48	18.00	1.419	-	-	0.11	0.214	0.304
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 7	9400	1880	16.48	18.00	1.419	-	-	0.01	0.401	0.569
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left side	5mm	Ant 1	DSI 7	9400	1880	16.48	18.00	1.419	-	-	-0.09	0.051	0.072
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top side	5mm	Ant 1	DSI 7	9400	1880	16.48	18.00	1.419	-	-	-0.08	0.422	0.599
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top side	5mm	Ant 1	DSI 7	9262	1852.4	16.34	18.00	1.466	-	-	-0.02	0.402	0.589
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top side	5mm	Ant 1	DSI 7	9538	1907.6	16.41	18.00	1.442	-	-	-0.14	0.424	0.611
	LTE Band 25	20M	QPSK	1	49	-	Front	5mm	Ant 0	DSI 7	26340	1880	15.17	16.40	1.327	-	-	-0.14	0.453	0.601
	LTE Band 25	20M	QPSK	1	49	-	Back	5mm	Ant 0	DSI 7	26340	1880	15.17	16.40	1.327	-	-	-0.08	0.547	0.726
	LTE Band 25	20M	QPSK	1	49	-	Left side	5mm	Ant 0	DSI 7	26340	1880	15.17	16.40	1.327	-	-	0.14	0.082	0.109
	LTE Band 25	20M	QPSK	1	49	-	Right side	5mm	Ant 0	DSI 7	26340	1880	15.17	16.40	1.327	-	-	-	n/a	n/a
	LTE Band 25	20M	QPSK	1	49	-	Bottom side	5mm	Ant 0	DSI 7	26340	1880	15.17	16.40	1.327	-	-	0.09	0.892	1.184
	LTE Band 25	20M	QPSK	1	49	-	Bottom side	5mm	Ant 0	DSI 7	26140	1860	15.11	16.40	1.346	-	-	-0.1	0.931	1.253
52	LTE Band 25	20M	QPSK	1	49	-	Bottom side	5mm	Ant 0	DSI 7	26590	1905	15.10	16.40	1.349	-	-	0.15	0.941	1.269
	LTE Band 25_Other PA	20M	QPSK	1	49	-	Bottom side	5mm	Ant 0	DSI 7	26590	1905	15.64	16.40	1.191	-	-	-0.08	0.893	1.064
	LTE Band 25	20M	QPSK	50	0	-	Front	5mm	Ant 0	DSI 7	26340	1880	15.15	16.40	1.334	-	-	0.16	0.482	0.643
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	26340	1880	15.15	16.40	1.334	-	-	0.18	0.528	0.704
	LTE Band 25	20M	QPSK	50	0	-	Left side	5mm	Ant 0	DSI 7	26340	1880	15.15	16.40	1.334	-	-	-0.08	0.078	0.104
	LTE Band 25	20M	QPSK	50	0	-	Right side	5mm	Ant 0	DSI 7	26340	1880	15.15	16.40	1.334	-	-	-	n/a	n/a
	LTE Band 25	20M	QPSK	50	0	-	Bottom side	5mm	Ant 0	DSI 7	26340	1880	15.15	16.40	1.334	-	-	-0.04	0.852	1.136



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	LTE Band 25	20M	QPSK	50	0	-	Bottom side	5mm	Ant 0	DSI 7	26140	1860	15.11	16.40	1.346	-	-	0.09	0.899	1.210
	LTE Band 25	20M	QPSK	50	0	-	Bottom side	5mm	Ant 0	DSI 7	26590	1905	15.05	16.40	1.365	-	-	-0.09	0.833	1.137
	LTE Band 25	20M	QPSK	100	0	-	Bottom side	5mm	Ant 0	DSI 7	26340	1880	15.15	16.40	1.334	-	-	0.18	0.855	1.140
	LTE Band 25	20M	QPSK	1	49	-	Front	5mm	Ant 1	DSI 7	26340	1880	15.55	17.00	1.396	-	-	0.03	0.214	0.299
	LTE Band 25	20M	QPSK	1	49	-	Back	5mm	Ant 1	DSI 7	26340	1880	15.55	17.00	1.396	-	-	0.16	0.406	0.567
	LTE Band 25	20M	QPSK	1	49	-	Left side	5mm	Ant 1	DSI 7	26340	1880	15.55	17.00	1.396	-	-	0.18	0.094	0.131
	LTE Band 25	20M	QPSK	1	49	-	Top side	5mm	Ant 1	DSI 7	26340	1880	15.55	17.00	1.396	-	-	-0.08	0.430	0.600
	LTE Band 25_Other PA	20M	QPSK	1	49	-	Top side	5mm	Ant 1	DSI 7	26340	1880	16.18	17.00	1.208	-	-	-0.09	0.419	0.506
	LTE Band 25	20M	QPSK	1	49	-	Top side	5mm	Ant 1	DSI 7	26140	1860	15.42	17.00	1.439	-	-	-0.04	0.390	0.561
	LTE Band 25	20M	QPSK	1	49	-	Top side	5mm	Ant 1	DSI 7	26590	1905	15.43	17.00	1.435	-	-	0.09	0.416	0.597
	LTE Band 25	20M	QPSK	50	0	-	Front	5mm	Ant 1	DSI 7	26340	1880	15.48	17.00	1.419	-	-	-0.01	0.204	0.289
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 7	26340	1880	15.48	17.00	1.419	-	-	0.18	0.388	0.551
	LTE Band 25	20M	QPSK	50	0	-	Left side	5mm	Ant 1	DSI 7	26340	1880	15.48	17.00	1.419	-	-	0.11	0.090	0.128
	LTE Band 25	20M	QPSK	50	0	-	Top side	5mm	Ant 1	DSI 7	26340	1880	15.48	17.00	1.419	-	-	0.01	0.411	0.583
	FR1 n25	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 0	DSI 7	376500	1882.5	15.38	16.00	1.153	-	-	-0.08	0.473	0.546
	FR1 n25	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	DSI 7	376500	1882.5	15.38	16.00	1.153	-	-	0.14	0.634	0.731
	FR1 n25	40M	QPSK	1	1	DFT-15	Left side	5mm	Ant 0	DSI 7	376500	1882.5	15.38	16.00	1.153	-	-	-	n/a	n/a
	FR1 n25	40M	QPSK	1	1	DFT-15	Right side	5mm	Ant 0	DSI 7	376500	1882.5	15.38	16.00	1.153	-	-	-	n/a	n/a
53	FR1 n25	40M	QPSK	1	1	DFT-15	Bottom side	5mm	Ant 0	DSI 7	376500	1882.5	15.38	16.00	1.153	-	-	-0.1	0.961	1.108
	FR1 n25_Other PA	40M	QPSK	1	1	DFT-15	Bottom side	5mm	Ant 0	DSI 7	376500	1882.5	15.22	16.00	1.197	-	-	0.15	0.810	0.969
	FR1 n25	40M	QPSK	108	54	DFT-15	Front	5mm	Ant 0	DSI 7	376500	1882.5	15.30	16.00	1.175	-	-	0.03	0.452	0.531
	FR1 n25	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 0	DSI 7	376500	1882.5	15.30	16.00	1.175	-	-	0.16	0.605	0.711
	FR1 n25	40M	QPSK	108	54	DFT-15	Left side	5mm	Ant 0	DSI 7	376500	1882.5	15.30	16.00	1.175	-	-	-	n/a	n/a
	FR1 n25	40M	QPSK	108	54	DFT-15	Right side	5mm	Ant 0	DSI 7	376500	1882.5	15.30	16.00	1.175	-	-	-	n/a	n/a
	FR1 n25	40M	QPSK	108	54	DFT-15	Bottom side	5mm	Ant 0	DSI 7	376500	1882.5	15.30	16.00	1.175	-	-	-0.09	0.918	1.079
	FR1 n25	40M	QPSK	216	0	DFT-15	Bottom side	5mm	Ant 0	DSI 7	376500	1882.5	15.28	16.00	1.180	-	-	0.09	0.936	1.105
	FR1 n25	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 1	DSI 7	376500	1882.5	15.78	17.00	1.324	-	-	0.12	0.176	0.233
	FR1 n25	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	DSI 7	376500	1882.5	15.78	17.00	1.324	-	-	-0.05	0.349	0.462
	FR1 n25	40M	QPSK	1	1	DFT-15	Left side	5mm	Ant 1	DSI 7	376500	1882.5	15.78	17.00	1.324	-	-	0.19	0.078	0.103
	FR1 n25	40M	QPSK	1	1	DFT-15	Top side	5mm	Ant 1	DSI 7	376500	1882.5	15.78	17.00	1.324	-	-	0	0.434	0.575
	FR1 n25_Other PA	40M	QPSK	1	1	DFT-15	Top side	5mm	Ant 1	DSI 7	376500	1882.5	16.18	17.00	1.208	-	-	0.02	0.444	0.536
	FR1 n25	40M	QPSK	108	54	DFT-15	Front	5mm	Ant 1	DSI 7	376500	1882.5	15.70	17.00	1.349	-	-	-0.14	0.168	0.227
	FR1 n25	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 1	DSI 7	376500	1882.5	15.70	17.00	1.349	-	-	-0.08	0.333	0.449
	FR1 n25	40M	QPSK	108	54	DFT-15	Left side	5mm	Ant 1	DSI 7	376500	1882.5	15.70	17.00	1.349	-	-	0.14	0.074	0.100
	FR1 n25	40M	QPSK	108	54	DFT-15	Top side	5mm	Ant 1	DSI 7	376500	1882.5	15.70	17.00	1.349	-	-	-0.18	0.414	0.558
2300MHz																				
	LTE Band 30	10M	QPSK	1	25	-	Front	5mm	Ant 9	DSI 7	27710	2310	21.49	22.10	1.151	-	-	-0.04	0.225	0.259
	LTE Band 30	10M	QPSK	1	25	-	Back	5mm	Ant 9	DSI 7	27710	2310	21.49	22.10	1.151	-	-	0.09	0.512	0.589
54	LTE Band 30	10M	QPSK	1	25	-	Right side	5mm	Ant 9	DSI 7	27710	2310	21.49	22.10	1.151	-	-	-0.09	1.110	1.277
	LTE Band 30	10M	QPSK	1	25	-	Bottom side	5mm	Ant 9	DSI 7	27710	2310	21.49	22.10	1.151	-	-	0.18	0.040	0.046
	LTE Band 30	10M	QPSK	25	0	-	Front	5mm	Ant 9	DSI 7	27710	2310	21.48	22.10	1.153	-	-	0.01	0.212	0.245
	LTE Band 30	10M	QPSK	25	0	-	Back	5mm	Ant 9	DSI 7	27710	2310	21.48	22.10	1.153	-	-	-0.09	0.494	0.570
	LTE Band 30	10M	QPSK	25	0	-	Right side	5mm	Ant 9	DSI 7	27710	2310	21.48	22.10	1.153	-	-	-0.08	0.913	1.053
	LTE Band 30	10M	QPSK	25	0	-	Bottom side	5mm	Ant 9	DSI 7	27710	2310	21.48	22.10	1.153	-	-	-0.02	0.038	0.044
	LTE Band 30	10M	QPSK	50	0	-	Right side	5mm	Ant 9	DSI 7	27710	2310	21.43	22.10	1.167	-	-	0.01	0.899	1.049
	LTE Band 30	10M	QPSK	1	25	-	Front	5mm	Ant 1	DSI 7	27710	2310	13.97	15.40	1.390	-	-	0.09	0.133	0.185
	LTE Band 30	10M	QPSK	1	25	-	Back	5mm	Ant 1	DSI 7	27710	2310	13.97	15.40	1.390	-	-	-0.1	0.367	0.510
	LTE Band 30	10M	QPSK	1	25	-	Left side	5mm	Ant 1	DSI 7	27710	2310	13.97	15.40	1.390	-	-	-	n/a	n/a
	LTE Band 30	10M	QPSK	1	25	-	Top side	5mm	Ant 1	DSI 7	27710	2310	13.97	15.40	1.390	-	-	-0.08	0.380	0.528
	LTE Band 30	10M	QPSK	25	0	-	Front	5mm	Ant 1	DSI 7	27710	2310	13.88	15.40	1.419	-	-	0.18	0.132	0.187
	LTE Band 30	10M	QPSK	25	0	-	Back	5mm	Ant 1	DSI 7	27710	2310	13.88	15.40	1.419	-	-	-0.08	0.370	0.525
	LTE Band 30	10M	QPSK	25	0	-	Left side	5mm	Ant 1	DSI 7	27710	2310	13.88	15.40	1.419	-	-	-	n/a	n/a
	LTE Band 30	10M	QPSK	25	0	-	Top side	5mm	Ant 1	DSI 7	27710	2310	13.88	15.40	1.419	-	-	-0.04	0.371	0.526
	FR1 n30	10M	QPSK	1	1	DFT-15	Front	5mm	Ant 9	DSI 7	462000	2310	20.89	22.00	1.291	-	-	0.01	0.170	0.220
	FR1 n30	10M	QPSK	1	1	DFT-15	Back	5mm	Ant 9	DSI 7	462000	2310	20.89	22.00	1.291	-	-	0.12	0.418	0.540
55	FR1 n30	10M	QPSK	1	1	DFT-15	Right side	5mm	Ant 9	DSI 7	462000	2310	20.89	22.00	1.291	-	-	-0.05	0.877	1.132



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	FR1 n30	10M	QPSK	1	1	DFT-15	Bottom side	5mm	Ant 9	DSI 7	462000	2310	20.89	22.00	1.291	-	-	0.19	0.030	0.039
	FR1 n30	10M	QPSK	25	14	DFT-15	Front	5mm	Ant 9	DSI 7	462000	2310	20.87	22.00	1.297	-	-	0.02	0.162	0.210
	FR1 n30	10M	QPSK	25	14	DFT-15	Back	5mm	Ant 9	DSI 7	462000	2310	20.87	22.00	1.297	-	-	0.15	0.399	0.518
	FR1 n30	10M	QPSK	25	14	DFT-15	Right side	5mm	Ant 9	DSI 7	462000	2310	20.87	22.00	1.297	-	-	-0.14	0.838	1.087
	FR1 n30	10M	QPSK	25	14	DFT-15	Bottom side	5mm	Ant 9	DSI 7	462000	2310	20.87	22.00	1.297	-	-	-0.08	0.029	0.038
	FR1 n30	10M	QPSK	50	0	DFT-15	Right side	5mm	Ant 9	DSI 7	462000	2310	20.85	22.00	1.303	-	-	-0.18	0.791	1.031
	FR1 n30	10M	QPSK	1	1	DFT-15	Front	5mm	Ant 1	DSI 7	462000	2310	14.20	16.00	1.514	-	-	-0.08	0.122	0.185
	FR1 n30	10M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	DSI 7	462000	2310	14.20	16.00	1.514	-	-	-0.09	0.351	0.531
	FR1 n30	10M	QPSK	1	1	DFT-15	Left side	5mm	Ant 1	DSI 7	462000	2310	14.20	16.00	1.514	-	-	-0.04	0.089	0.135
	FR1 n30	10M	QPSK	1	1	DFT-15	Top side	5mm	Ant 1	DSI 7	462000	2310	14.20	16.00	1.514	-	-	0.09	0.375	0.568
	FR1 n30	10M	QPSK	25	14	DFT-15	Front	5mm	Ant 1	DSI 7	462000	2310	14.15	16.00	1.531	-	-	-0.01	0.123	0.188
	FR1 n30	10M	QPSK	25	14	DFT-15	Back	5mm	Ant 1	DSI 7	462000	2310	14.15	16.00	1.531	-	-	0.18	0.320	0.490
	FR1 n30	10M	QPSK	25	14	DFT-15	Left side	5mm	Ant 1	DSI 7	462000	2310	14.15	16.00	1.531	-	-	0.11	0.080	0.122
	FR1 n30	10M	QPSK	25	14	DFT-15	Top side	5mm	Ant 1	DSI 7	462000	2310	14.15	16.00	1.531	-	-	0.01	0.355	0.544
2600MHz																				
	LTE Band 7	20M	QPSK	1	49	-	Front	5mm	Ant 9	DSI 7	21100	2535	16.26	16.90	1.159	-	-	0	0.171	0.198
	LTE Band 7	20M	QPSK	1	49	-	Back	5mm	Ant 9	DSI 7	21100	2535	16.26	16.90	1.159	-	-	0.02	0.433	0.502
	LTE Band 7	20M	QPSK	1	49	-	Right side	5mm	Ant 9	DSI 7	21100	2535	16.26	16.90	1.159	-	-	0.15	0.864	1.001
	LTE Band 7	20M	QPSK	1	49	-	Bottom side	5mm	Ant 9	DSI 7	21100	2535	16.26	16.90	1.159	-	-	-0.14	0.043	0.050
	LTE Band 7	20M	QPSK	1	49	-	Right side	5mm	Ant 9	DSI 7	20850	2510	16.21	16.90	1.172	-	-	-0.08	0.916	1.074
56	LTE Band 7	20M	QPSK	1	49	-	Right side	5mm	Ant 9	DSI 7	21350	2560	16.19	16.90	1.178	-	-	0.14	0.955	1.125
	LTE Band 7	20M	QPSK	50	0	-	Front	5mm	Ant 9	DSI 7	21100	2535	16.23	16.90	1.167	-	-	-0.1	0.163	0.190
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 9	DSI 7	21100	2535	16.23	16.90	1.167	-	-	0.15	0.414	0.483
	LTE Band 7	20M	QPSK	50	0	-	Right side	5mm	Ant 9	DSI 7	21100	2535	16.23	16.90	1.167	-	-	-0.08	0.825	0.963
	LTE Band 7	20M	QPSK	50	0	-	Bottom side	5mm	Ant 9	DSI 7	21100	2535	16.23	16.90	1.167	-	-	0.03	0.041	0.048
	LTE Band 7	20M	QPSK	50	0	-	Right side	5mm	Ant 9	DSI 7	20850	2510	16.16	16.90	1.186	-	-	0.16	0.875	1.038
	LTE Band 7	20M	QPSK	50	0	-	Right side	5mm	Ant 9	DSI 7	21350	2560	16.12	16.90	1.197	-	-	0.18	0.912	1.091
	LTE Band 7	20M	QPSK	100	0	-	Right side	5mm	Ant 9	DSI 7	21100	2535	16.14	16.90	1.191	-	-	-0.09	0.718	0.855
	LTE Band 7	20M	QPSK	1	49	-	Front	5mm	Ant 1	DSI 7	21100	2535	13.81	15.10	1.346	-	-	0.02	0.158	0.213
	LTE Band 7	20M	QPSK	1	49	-	Back	5mm	Ant 1	DSI 7	21100	2535	13.81	15.10	1.346	-	-	0.15	0.389	0.524
	LTE Band 7	20M	QPSK	1	49	-	Left side	5mm	Ant 1	DSI 7	21100	2535	13.81	15.10	1.346	-	-	-	n/a	n/a
	LTE Band 7	20M	QPSK	1	49	-	Top side	5mm	Ant 1	DSI 7	21100	2535	13.81	15.10	1.346	-	-	-0.08	0.184	0.248
	LTE Band 7	20M	QPSK	1	49	-	Back	5mm	Ant 1	DSI 7	20850	2510	13.67	15.10	1.390	-	-	0.14	0.393	0.546
	LTE Band 7	20M	QPSK	1	49	-	Back	5mm	Ant 1	DSI 7	21350	2560	13.70	15.10	1.380	-	-	0.09	0.385	0.531
	LTE Band 7	20M	QPSK	50	0	-	Front	5mm	Ant 1	DSI 7	21100	2535	13.79	15.10	1.352	-	-	0.15	0.161	0.218
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 7	21100	2535	13.79	15.10	1.352	-	-	-0.08	0.384	0.519
	LTE Band 7	20M	QPSK	50	0	-	Left side	5mm	Ant 1	DSI 7	21100	2535	13.79	15.10	1.352	-	-	-	n/a	n/a
	LTE Band 7	20M	QPSK	50	0	-	Top side	5mm	Ant 1	DSI 7	21100	2535	13.79	15.10	1.352	-	-	0.16	0.176	0.238
	LTE Band 41	20M	QPSK	1	49	-	Front	5mm	Ant 9	DSI 7	41490	2680	17.23	18.00	1.194	62.9	1.006	-0.02	0.164	0.197
	LTE Band 41	20M	QPSK	1	49	-	Back	5mm	Ant 9	DSI 7	41490	2680	17.23	18.00	1.194	62.9	1.006	-0.14	0.425	0.510
	LTE Band 41	20M	QPSK	1	49	-	Right side	5mm	Ant 9	DSI 7	41490	2680	17.23	18.00	1.194	62.9	1.006	0.01	0.871	1.046
	LTE Band 41	20M	QPSK	1	49	-	Bottom side	5mm	Ant 9	DSI 7	41490	2680	17.23	18.00	1.194	62.9	1.006	0.12	0.092	0.111
	LTE Band 41	20M	QPSK	1	49	-	Right side	5mm	Ant 9	DSI 7	39750	2506	16.99	18.00	1.262	62.9	1.006	0.19	0.513	0.651
	LTE Band 41	20M	QPSK	1	49	-	Right side	5mm	Ant 9	DSI 7	40185	2549.5	17.01	18.00	1.256	62.9	1.006	0	0.575	0.727
	LTE Band 41	20M	QPSK	1	49	-	Right side	5mm	Ant 9	DSI 7	40620	2593	17.12	18.00	1.225	62.9	1.006	0.02	0.778	0.958
57	LTE Band 41	20M	QPSK	1	49	-	Right side	5mm	Ant 9	DSI 7	41055	2636.5	16.64	18.00	1.368	62.9	1.006	0.15	0.847	1.165
	LTE Band 41C	20M	QPSK	1	0	-	Right side	5mm	Ant 9	DSI 7	41055+41253	2636.5+2656.3	17.20	18.00	1.202	62.9	1.006	0.11	0.893	1.080
	LTE Band 41 HPUE	20M	QPSK	1	49	-	Right side	5mm	Ant 9	DSI 7	41055	2636.5	18.54	19.60	1.276	42.9	1.009	-0.14	0.827	1.065
	LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 9	DSI 7	41490	2680	17.20	18.00	1.202	62.9	1.006	0.14	0.157	0.190
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 9	DSI 7	41490	2680	17.20	18.00	1.202	62.9	1.006	-0.18	0.406	0.491
	LTE Band 41	20M	QPSK	50	0	-	Right side	5mm	Ant 9	DSI 7	41490	2680	17.20	18.00	1.202	62.9	1.006	0.09	0.832	1.006
	LTE Band 41	20M	QPSK	50	0	-	Bottom side	5mm	Ant 9	DSI 7	41490	2680	17.20	18.00	1.202	62.9	1.006	-0.1	0.088	0.106
	LTE Band 41	20M	QPSK	50	0	-	Right side	5mm	Ant 9	DSI 7	39750	2506	16.86	18.00	1.300	62.9	1.006	-0.08	0.490	0.641
	LTE Band 41	20M	QPSK	50	0	-	Right side	5mm	Ant 9	DSI 7	40185	2549.5	16.88	18.00	1.294	62.9	1.006	0.03	0.549	0.715
	LTE Band 41	20M	QPSK	50	0	-	Right side	5mm	Ant 9	DSI 7	40620	2593	17.03	18.00	1.250	62.9	1.006	0.16	0.743	0.935
	LTE Band 41	20M	QPSK	50	0	-	Right side	5mm	Ant 9	DSI 7	41055	2636.5	16.61	18.00	1.377	62.9	1.006	0.18	0.809	1.121



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	LTE Band 41	20M	QPSK	100	0	-	Right side	5mm	Ant 9	DSI 7	41490	2680	17.19	18.00	1.205	62.9	1.006	-0.09	0.955	1.158
	LTE Band 41	20M	QPSK	1	49	-	Front	5mm	Ant 1	DSI 7	40620	2593	16.94	17.60	1.164	62.9	1.006	-0.09	0.203	0.238
	LTE Band 41	20M	QPSK	1	49	-	Back	5mm	Ant 1	DSI 7	40620	2593	16.94	17.60	1.164	62.9	1.006	-0.01	0.440	0.515
	LTE Band 41	20M	QPSK	1	49	-	Left side	5mm	Ant 1	DSI 7	40620	2593	16.94	17.60	1.164	62.9	1.006	0.18	0.042	0.049
	LTE Band 41	20M	QPSK	1	49	-	Top side	5mm	Ant 1	DSI 7	40620	2593	16.94	17.60	1.164	62.9	1.006	0.11	0.423	0.495
	LTE Band 41	20M	QPSK	1	49	-	Back	5mm	Ant 1	DSI 7	39750	2506	16.87	17.60	1.183	62.9	1.006	-0.09	0.440	0.524
	LTE Band 41	20M	QPSK	1	49	-	Back	5mm	Ant 1	DSI 7	40185	2549.5	16.81	17.60	1.199	62.9	1.006	-0.08	0.455	0.549
	LTE Band 41C	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	40185+ 40383	2549.5+ 2569.3	16.76	17.60	1.213	62.9	1.006	-0.03	0.431	0.526
	LTE Band 41	20M	QPSK	1	49	-	Back	5mm	Ant 1	DSI 7	41055	2636.5	16.90	17.60	1.175	62.9	1.006	-0.02	0.462	0.546
	LTE Band 41	20M	QPSK	1	49	-	Back	5mm	Ant 1	DSI 7	41490	2680	16.92	17.60	1.169	62.9	1.006	-0.14	0.443	0.521
	LTE Band 41 HPUE	20M	QPSK	1	49	-	Back	5mm	Ant 1	DSI 7	40185	2549.5	18.49	19.20	1.178	42.9	1.009	0.01	0.433	0.514
	LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 1	DSI 7	40620	2593	16.91	17.60	1.172	62.9	1.006	-0.05	0.194	0.229
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 7	40620	2593	16.91	17.60	1.172	62.9	1.006	0.19	0.420	0.495
	LTE Band 41	20M	QPSK	50	0	-	Left side	5mm	Ant 1	DSI 7	40620	2593	16.91	17.60	1.172	62.9	1.006	0	0.040	0.047
	LTE Band 41	20M	QPSK	50	0	-	Top side	5mm	Ant 1	DSI 7	40620	2593	16.91	17.60	1.172	62.9	1.006	0.02	0.404	0.476
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 7	39750	2506	16.80	17.60	1.202	62.9	1.006	-0.14	0.420	0.508
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 7	40185	2549.5	16.89	17.60	1.178	62.9	1.006	-0.08	0.435	0.515
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 7	41055	2636.5	16.84	17.60	1.191	62.9	1.006	0.14	0.441	0.528
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 7	41490	2680	16.88	17.60	1.180	62.9	1.006	-0.18	0.461	0.547
	LTE Band 41	20M	QPSK	1	49	-	Front	5mm	Ant 2	DSI 7	40620	2593	22.83	23.50	1.167	62.9	1.006	0.19	0.384	0.451
	LTE Band 41	20M	QPSK	1	49	-	Back	5mm	Ant 2	DSI 7	40620	2593	22.83	23.50	1.167	62.9	1.006	0	0.704	0.826
	LTE Band 41	20M	QPSK	1	49	-	Left side	5mm	Ant 2	DSI 7	40620	2593	22.83	23.50	1.167	62.9	1.006	0.02	0.782	0.918
	LTE Band 41C	20M	QPSK	1	0	-	Left side	5mm	Ant 2	DSI 7	40620+ 40818	2593+ 2612.8	22.81	23.50	1.172	62.9	1.006	0.08	0.762	0.899
	LTE Band 41	20M	QPSK	1	49	-	Bottom side	5mm	Ant 2	DSI 7	40620	2593	22.83	23.50	1.167	62.9	1.006	0.15	0.220	0.258
	LTE Band 41	20M	QPSK	1	49	-	Back	5mm	Ant 2	DSI 7	39750	2506	22.43	23.50	1.279	62.9	1.006	-0.08	0.453	0.583
	LTE Band 41	20M	QPSK	1	49	-	Back	5mm	Ant 2	DSI 7	40185	2549.5	22.71	23.50	1.199	62.9	1.006	0.14	0.534	0.644
	LTE Band 41	20M	QPSK	1	49	-	Back	5mm	Ant 2	DSI 7	41055	2636.5	22.44	23.50	1.276	62.9	1.006	-0.18	0.550	0.706
	LTE Band 41	20M	QPSK	1	49	-	Back	5mm	Ant 2	DSI 7	41490	2680	22.68	23.50	1.208	62.9	1.006	0.09	0.602	0.731
	LTE Band 41	20M	QPSK	1	49	-	Left side	5mm	Ant 2	DSI 7	39750	2506	22.35	23.50	1.303	62.9	1.006	-0.1	0.691	0.906
	LTE Band 41	20M	QPSK	1	49	-	Left side	5mm	Ant 2	DSI 7	40185	2549.5	22.71	23.50	1.199	62.9	1.006	-0.08	0.751	0.906
	LTE Band 41	20M	QPSK	1	49	-	Left side	5mm	Ant 2	DSI 7	41055	2636.5	22.44	23.50	1.276	62.9	1.006	0.03	0.700	0.899
	LTE Band 41	20M	QPSK	1	49	-	Left side	5mm	Ant 2	DSI 7	41490	2680	22.68	23.50	1.208	62.9	1.006	0.16	0.721	0.876
	LTE Band 41 HPUE	20M	QPSK	1	49	-	Left side	5mm	Ant 2	DSI 7	40620	2593	24.36	25.10	1.186	42.9	1.009	0.18	0.745	0.891
	LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 2	DSI 7	40620	2593	22.79	23.50	1.178	62.9	1.006	-0.09	0.367	0.435
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 2	DSI 7	40620	2593	22.79	23.50	1.178	62.9	1.006	-0.04	0.672	0.796
	LTE Band 41	20M	QPSK	50	0	-	Left side	5mm	Ant 2	DSI 7	40620	2593	22.79	23.50	1.178	62.9	1.006	0.09	0.747	0.885
	LTE Band 41	20M	QPSK	50	0	-	Bottom side	5mm	Ant 2	DSI 7	40620	2593	22.79	23.50	1.178	62.9	1.006	-0.09	0.210	0.249
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 2	DSI 7	39750	2506	22.37	23.50	1.297	62.9	1.006	0.18	0.433	0.565
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 2	DSI 7	40185	2549.5	22.69	23.50	1.205	62.9	1.006	0.09	0.510	0.618
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 2	DSI 7	41055	2636.5	22.40	23.50	1.288	62.9	1.006	-0.09	0.525	0.680
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 2	DSI 7	41490	2680	22.67	23.50	1.211	62.9	1.006	-0.01	0.575	0.700
	LTE Band 41	20M	QPSK	50	0	-	Left side	5mm	Ant 2	DSI 7	39750	2506	22.31	23.50	1.315	62.9	1.006	0.18	0.660	0.873
	LTE Band 41	20M	QPSK	50	0	-	Left side	5mm	Ant 2	DSI 7	40185	2549.5	22.69	23.50	1.205	62.9	1.006	0.01	0.717	0.869
	LTE Band 41	20M	QPSK	50	0	-	Left side	5mm	Ant 2	DSI 7	41055	2636.5	22.40	23.50	1.288	62.9	1.006	-0.09	0.668	0.866
	LTE Band 41	20M	QPSK	50	0	-	Left side	5mm	Ant 2	DSI 7	41490	2680	22.67	23.50	1.211	62.9	1.006	-0.08	0.689	0.839
	LTE Band 41	20M	QPSK	100	0	-	Back	5mm	Ant 2	DSI 7	40620	2593	22.72	23.50	1.197	62.9	1.006	-0.14	0.701	0.844
	LTE Band 41	20M	QPSK	100	0	-	Left side	5mm	Ant 2	DSI 7	40620	2593	22.72	23.50	1.197	62.9	1.006	0.01	0.751	0.904
	LTE Band 41	20M	QPSK	1	49	-	Front	5mm	Ant 6	DSI 7	40620	2593	17.47	18.30	1.211	62.9	1.006	0.09	0.121	0.147
	LTE Band 41	20M	QPSK	1	49	-	Back	5mm	Ant 6	DSI 7	40620	2593	17.47	18.30	1.211	62.9	1.006	-0.09	0.178	0.217
	LTE Band 41	20M	QPSK	1	49	-	Left side	5mm	Ant 6	DSI 7	40620	2593	17.47	18.30	1.211	62.9	1.006	-0.01	0.457	0.557
	LTE Band 41	20M	QPSK	1	49	-	Top side	5mm	Ant 6	DSI 7	40620	2593	17.47	18.30	1.211	62.9	1.006	-	n/a	n/a
	LTE Band 41	20M	QPSK	1	49	-	Left side	5mm	Ant 6	DSI 7	39750	2506	17.38	18.30	1.236	62.9	1.006	0.01	0.430	0.535
	LTE Band 41	20M	QPSK	1	49	-	Left side	5mm	Ant 6	DSI 7	40185	2549.5	17.34	18.30	1.247	62.9	1.006	-0.09	0.431	0.541
	LTE Band 41	20M	QPSK	1	49	-	Left side	5mm	Ant 6	DSI 7	41055	2636.5	17.46	18.30	1.213	62.9	1.006	-0.08	0.477	0.582
	LTE Band 41C	20M	QPSK	1	0	-	Left side	5mm	Ant 6	DSI 7	41055+ 41253	2636.5+ 2656.3	17.38	18.30	1.236	62.9	1.006	0.07	0.442	0.550



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	LTE Band 41	20M	QPSK	1	49	-	Left side	5mm	Ant 6	DSI 7	41490	2680	17.44	18.30	1.219	62.9	1.006	-0.02	0.360	0.441
	LTE Band 41 HPUE	20M	QPSK	1	49	-	Left side	5mm	Ant 6	DSI 7	41055	2636.5	18.83	19.90	1.279	42.9	1.009	-0.14	0.431	0.556
	LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 6	DSI 7	40620	2593	17.45	18.30	1.216	62.9	1.006	0.12	0.116	0.142
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 6	DSI 7	40620	2593	17.45	18.30	1.216	62.9	1.006	-0.05	0.170	0.208
	LTE Band 41	20M	QPSK	50	0	-	Left side	5mm	Ant 6	DSI 7	40620	2593	17.45	18.30	1.216	62.9	1.006	0.19	0.436	0.533
	LTE Band 41	20M	QPSK	50	0	-	Top side	5mm	Ant 6	DSI 7	40620	2593	17.45	18.30	1.216	62.9	1.006	-	n/a	n/a
	LTE Band 41	20M	QPSK	50	0	-	Left side	5mm	Ant 6	DSI 7	39750	2506	17.31	18.30	1.256	62.9	1.006	0.15	0.411	0.519
	LTE Band 41	20M	QPSK	50	0	-	Left side	5mm	Ant 6	DSI 7	40185	2549.5	17.26	18.30	1.271	62.9	1.006	-0.14	0.412	0.527
	LTE Band 41	20M	QPSK	50	0	-	Left side	5mm	Ant 6	DSI 7	41055	2636.5	17.39	18.30	1.233	62.9	1.006	-0.08	0.456	0.566
	LTE Band 41	20M	QPSK	50	0	-	Left side	5mm	Ant 6	DSI 7	41490	2680	17.39	18.30	1.233	62.9	1.006	0.14	0.344	0.427
	FR1 n7	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 9	DSI 7	507000	2535	17.28	18.00	1.180	-	-	-0.08	0.204	0.241
	FR1 n7	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 9	DSI 7	507000	2535	17.28	18.00	1.180	-	-	-0.02	0.492	0.581
58	FR1 n7	40M	QPSK	1	1	DFT-15	Right side	5mm	Ant 9	DSI 7	507000	2535	17.28	18.00	1.180	-	-	-0.14	0.987	1.165
	FR1 n7	40M	QPSK	1	1	DFT-15	Bottom side	5mm	Ant 9	DSI 7	507000	2535	17.28	18.00	1.180	-	-	-	n/a	n/a
	FR1 n7	40M	QPSK	108	54	DFT-15	Front	5mm	Ant 9	DSI 7	507000	2535	17.22	18.00	1.197	-	-	-0.05	0.182	0.218
	FR1 n7	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 9	DSI 7	507000	2535	17.22	18.00	1.197	-	-	0.19	0.466	0.558
	FR1 n7	40M	QPSK	108	54	DFT-15	Right side	5mm	Ant 9	DSI 7	507000	2535	17.22	18.00	1.197	-	-	0	0.855	1.023
	FR1 n7	40M	QPSK	108	54	DFT-15	Bottom side	5mm	Ant 9	DSI 7	507000	2535	17.22	18.00	1.197	-	-	-	n/a	n/a
	FR1 n7	40M	QPSK	216	0	DFT-15	Right side	5mm	Ant 9	DSI 7	507000	2535	17.19	18.00	1.205	-	-	-0.14	0.831	1.001
	FR1 n7	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 1	DSI 7	507000	2535	14.77	15.50	1.183	-	-	0.18	0.206	0.244
	FR1 n7	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	DSI 7	507000	2535	14.77	15.50	1.183	-	-	-0.08	0.515	0.609
	FR1 n7	40M	QPSK	1	1	DFT-15	Left side	5mm	Ant 1	DSI 7	507000	2535	14.77	15.50	1.183	-	-	-0.09	0.153	0.181
	FR1 n7	40M	QPSK	1	1	DFT-15	Top side	5mm	Ant 1	DSI 7	507000	2535	14.77	15.50	1.183	-	-	-0.04	0.508	0.601
	FR1 n7	40M	QPSK	108	54	DFT-15	Front	5mm	Ant 1	DSI 7	507000	2535	14.75	15.50	1.189	-	-	-0.09	0.197	0.234
	FR1 n7	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 1	DSI 7	507000	2535	14.75	15.50	1.189	-	-	-0.01	0.492	0.585
	FR1 n7	40M	QPSK	108	54	DFT-15	Left side	5mm	Ant 1	DSI 7	507000	2535	14.75	15.50	1.189	-	-	0.18	0.146	0.174
	FR1 n7	40M	QPSK	108	54	DFT-15	Top side	5mm	Ant 1	DSI 7	507000	2535	14.75	15.50	1.189	-	-	0.11	0.485	0.576
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 9	DSI 7	518598	2592.99	14.50	15.50	1.259	-	-	-0.05	0.173	0.218
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Back	5mm	Ant 9	DSI 7	518598	2592.99	14.50	15.50	1.259	-	-	0.19	0.437	0.550
59	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Right side	5mm	Ant 9	DSI 7	518598	2592.99	14.50	15.50	1.259	-	-	-0.06	0.875	1.102
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Bottom side	5mm	Ant 9	DSI 7	518598	2592.99	14.50	15.50	1.259	-	-	-	n/a	n/a
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 9	DSI 7	518598	2592.99	14.42	15.50	1.282	-	-	-0.14	0.165	0.212
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 9	DSI 7	518598	2592.99	14.42	15.50	1.282	-	-	-0.08	0.417	0.535
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Right side	5mm	Ant 9	DSI 7	518598	2592.99	14.42	15.50	1.282	-	-	0.14	0.836	1.072
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Bottom side	5mm	Ant 9	DSI 7	518598	2592.99	14.42	15.50	1.282	-	-	-	n/a	n/a
	FR1 n41 HPUE	100M	QPSK	270	0	DFT-30	Right side	5mm	Ant 9	DSI 7	518598	2592.99	14.36	15.50	1.300	-	-	-0.1	0.817	1.062
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 1	DSI 7	518598	2592.99	13.46	15.00	1.426	-	-	-0.09	0.152	0.217
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Back	5mm	Ant 1	DSI 7	518598	2592.99	13.46	15.00	1.426	-	-	-0.01	0.409	0.583
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Left side	5mm	Ant 1	DSI 7	518598	2592.99	13.46	15.00	1.426	-	-	0.18	0.100	0.143
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Top side	5mm	Ant 1	DSI 7	518598	2592.99	13.46	15.00	1.426	-	-	0.11	0.392	0.559
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 1	DSI 7	518598	2592.99	13.45	15.00	1.429	-	-	-0.09	0.145	0.207
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 1	DSI 7	518598	2592.99	13.45	15.00	1.429	-	-	-0.08	0.391	0.559
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Left side	5mm	Ant 1	DSI 7	518598	2592.99	13.45	15.00	1.429	-	-	-0.02	0.105	0.150
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Top side	5mm	Ant 1	DSI 7	518598	2592.99	13.45	15.00	1.429	-	-	-0.14	0.374	0.534
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 2	DSI 7	518598	2592.99	20.14	21.50	1.368	-	-	-0.18	0.264	0.361
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Back	5mm	Ant 2	DSI 7	518598	2592.99	20.14	21.50	1.368	-	-	0.09	0.526	0.719
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Left side	5mm	Ant 2	DSI 7	518598	2592.99	20.14	21.50	1.368	-	-	-0.1	0.766	1.048
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Bottom side	5mm	Ant 2	DSI 7	518598	2592.99	20.14	21.50	1.368	-	-	0.15	0.166	0.227
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 2	DSI 7	518598	2592.99	20.13	21.50	1.371	-	-	0.03	0.252	0.345
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 2	DSI 7	518598	2592.99	20.13	21.50	1.371	-	-	0.16	0.502	0.688
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Left side	5mm	Ant 2	DSI 7	518598	2592.99	20.13	21.50	1.371	-	-	0.18	0.732	1.003
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Bottom side	5mm	Ant 2	DSI 7	518598	2592.99	20.13	21.50	1.371	-	-	-0.08	0.159	0.218
	FR1 n41 HPUE	100M	QPSK	270	0	DFT-30	Back	5mm	Ant 2	DSI 7	518598	2592.99	20.09	21.50	1.384	-	-	-0.04	0.488	0.675
	FR1 n41 HPUE	100M	QPSK	270	0	DFT-30	Left side	5mm	Ant 2	DSI 7	518598	2592.99	20.09	21.50	1.384	-	-	0.09	0.630	0.872
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 6	DSI 7	518598	2592.99	14.27	15.50	1.327	-	-	0.12	0.249	0.331
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Back	5mm	Ant 6	DSI 7	518598	2592.99	14.27	15.50	1.327	-	-	-0.05	0.404	0.536



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	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Left side	5mm	Ant 6	DSI 7	518598	2592.99	14.27	15.50	1.327	-	-	0.19	0.424	0.563
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Top side	5mm	Ant 6	DSI 7	518598	2592.99	14.27	15.50	1.327	-	-	-	n/a	n/a
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 6	DSI 7	518598	2592.99	14.25	15.50	1.334	-	-	0.15	0.231	0.308
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 6	DSI 7	518598	2592.99	14.25	15.50	1.334	-	-	-0.14	0.398	0.531
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Left side	5mm	Ant 6	DSI 7	518598	2592.99	14.25	15.50	1.334	-	-	-0.08	0.411	0.548
	FR1 n41 HPUE	100M	QPSK	135	69	DFT-30	Top side	5mm	Ant 6	DSI 7	518598	2592.99	14.25	15.50	1.334	-	-	-	n/a	n/a
	FR1 n41 HPUE_Other PA	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 10	DSI 7	518598	2592.99	20.78	22.00	1.324	-	-	0.02	0.020	0.026
	FR1 n41 HPUE_Other PA	100M	QPSK	1	1	DFT-30	Back	5mm	Ant 10	DSI 7	518598	2592.99	20.78	22.00	1.324	-	-	-0.14	0.339	0.449
	FR1 n41 HPUE	100M	QPSK	1	1	DFT-30	Back	5mm	Ant 10	DSI 7	518598	2592.99	21.12	22.00	1.225	-	-	0.06	0.288	0.353
	FR1 n41 HPUE_Other PA	100M	QPSK	1	1	DFT-30	Left side	5mm	Ant 10	DSI 7	518598	2592.99	20.78	22.00	1.324	-	-	-0.18	0.067	0.089
	FR1 n41 HPUE_Other PA	100M	QPSK	1	1	DFT-30	Top side	5mm	Ant 10	DSI 7	518598	2592.99	20.78	22.00	1.324	-	-	0.19	0.031	0.041
	FR1 n41 HPUE_Other PA	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 10	DSI 7	518598	2592.99	20.75	22.00	1.334	-	-	-0.09	0.019	0.025
	FR1 n41 HPUE_Other PA	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 10	DSI 7	518598	2592.99	20.75	22.00	1.334	-	-	0.13	0.324	0.432
	FR1 n41 HPUE_Other PA	100M	QPSK	135	69	DFT-30	Left side	5mm	Ant 10	DSI 7	518598	2592.99	20.75	22.00	1.334	-	-	0.19	0.064	0.085
	FR1 n41 HPUE_Other PA	100M	QPSK	135	69	DFT-30	Top side	5mm	Ant 10	DSI 7	518598	2592.99	20.75	22.00	1.334	-	-	0.06	0.030	0.040
3000MHz-4000MHz																				
	LTE Band 48	20M	QPSK	1	49	-	Front	5mm	Ant 4	DSI 7	56640	3690	14.09	15.00	1.233	62.9	1.006	-0.08	0.098	0.122
	LTE Band 48	20M	QPSK	1	49	-	Back	5mm	Ant 4	DSI 7	56640	3690	14.09	15.00	1.233	62.9	1.006	-0.09	0.314	0.390
	LTE Band 48	20M	QPSK	1	49	-	Left side	5mm	Ant 4	DSI 7	56640	3690	14.09	15.00	1.233	62.9	1.006	-0.04	0.438	0.543
	LTE Band 48	20M	QPSK	1	49	-	Top side	5mm	Ant 4	DSI 7	56640	3690	14.09	15.00	1.233	62.9	1.006	0.09	0.054	0.067
60	LTE Band 48	20M	QPSK	1	49	-	Left side	5mm	Ant 4	DSI 7	55340	3560	13.97	15.00	1.268	62.9	1.006	-0.09	0.482	0.615
	LTE Band 48C	20M	QPSK	1	0	-	Left side	5mm	Ant 4	DSI 7	55340+ 55538	3560+ 3579.8	14.31	15.00	1.172	62.9	1.006	-0.03	0.516	0.608
	LTE Band 48_Other PA	20M	QPSK	1	49	-	Left side	5mm	Ant 4	DSI 7	55340	3560	13.99	15.00	1.262	62.9	1.006	-0.01	0.452	0.574
	LTE Band 48	20M	QPSK	1	49	-	Left side	5mm	Ant 4	DSI 7	55830	3609	13.93	15.00	1.279	62.9	1.006	0.18	0.447	0.575
	LTE Band 48	20M	QPSK	1	49	-	Left side	5mm	Ant 4	DSI 7	56150	3641	13.89	15.00	1.291	62.9	1.006	0.11	0.462	0.600
	LTE Band 48	20M	QPSK	50	0	-	Front	5mm	Ant 4	DSI 7	56640	3690	14.00	15.00	1.259	62.9	1.006	-0.09	0.094	0.119
	LTE Band 48	20M	QPSK	50	0	-	Back	5mm	Ant 4	DSI 7	56640	3690	14.00	15.00	1.259	62.9	1.006	-0.08	0.300	0.380
	LTE Band 48	20M	QPSK	50	0	-	Left side	5mm	Ant 4	DSI 7	56640	3690	14.00	15.00	1.259	62.9	1.006	-0.02	0.418	0.529
	LTE Band 48	20M	QPSK	50	0	-	Top side	5mm	Ant 4	DSI 7	56640	3690	14.00	15.00	1.259	62.9	1.006	-0.14	0.052	0.066
	LTE Band 48	20M	QPSK	100	0	-	Left side	5mm	Ant 4	DSI 7	56640	3690	13.91	15.00	1.285	62.9	1.006	0	0.409	0.529
	LTE Band 48	20M	QPSK	1	49	-	Front	5mm	Ant 7	DSI 7	55340	3560	15.22	16.20	1.253	62.9	1.006	-0.01	0.080	0.101
	LTE Band 48	20M	QPSK	1	49	-	Back	5mm	Ant 7	DSI 3	55340	3560	15.22	16.20	1.253	62.9	1.006	0.18	0.397	0.500
	LTE Band 48	20M	QPSK	1	49	-	Left side	5mm	Ant 7	DSI 7	55340	3560	15.22	16.20	1.253	62.9	1.006	0.11	0.035	0.044
	LTE Band 48	20M	QPSK	1	49	-	Right side	5mm	Ant 7	DSI 7	55340	3560	15.22	16.20	1.253	62.9	1.006	-	n/a	n/a
	LTE Band 48	20M	QPSK	1	49	-	Top side	5mm	Ant 7	DSI 7	55340	3560	15.22	16.20	1.253	62.9	1.006	-0.09	0.078	0.098
	LTE Band 48	20M	QPSK	1	49	-	Back	5mm	Ant 7	DSI 3	55830	3609	14.92	16.20	1.343	62.9	1.006	-0.08	0.329	0.444
	LTE Band 48	20M	QPSK	1	49	-	Back	5mm	Ant 7	DSI 7	56150	3641	15.10	16.20	1.288	62.9	1.006	-0.02	0.405	0.525
	LTE Band 48C	20M	QPSK	1	0	-	Back	5mm	Ant 7	DSI 7	56150+ 56348	3641+ 3660.8	15.49	16.20	1.178	62.9	1.006	-0.12	0.423	0.501
	LTE Band 48_Other PA	20M	QPSK	1	49	-	Back	5mm	Ant 7	DSI 7	56150	3641	15.04	16.20	1.306	62.9	1.006	-0.14	0.351	0.461
	LTE Band 48	20M	QPSK	1	49	-	Back	5mm	Ant 7	DSI 7	56640	3690	15.07	16.20	1.297	62.9	1.006	0.01	0.364	0.475
	LTE Band 48	20M	QPSK	50	0	-	Front	5mm	Ant 7	DSI 7	55340	3560	15.18	16.20	1.265	62.9	1.006	-0.05	0.076	0.097
	LTE Band 48	20M	QPSK	50	0	-	Back	5mm	Ant 7	DSI 7	55340	3560	15.18	16.20	1.265	62.9	1.006	0.19	0.379	0.482
	LTE Band 48	20M	QPSK	50	0	-	Left side	5mm	Ant 7	DSI 7	55340	3560	15.18	16.20	1.265	62.9	1.006	0	0.033	0.042
	LTE Band 48	20M	QPSK	50	0	-	Right side	5mm	Ant 7	DSI 7	55340	3560	15.18	16.20	1.265	62.9	1.006	-	n/a	n/a
	LTE Band 48	20M	QPSK	50	0	-	Top side	5mm	Ant 7	DSI 7	55340	3560	15.18	16.20	1.265	62.9	1.006	0.15	0.074	0.094
	LTE Band 48	20M	QPSK	1	49	-	Front	5mm	Ant 10	DSI 7	55830	3609	16.91	17.70	1.199	62.9	1.006	0.18	0.072	0.087
	LTE Band 48	20M	QPSK	1	49	-	Back	5mm	Ant 10	DSI 7	55830	3609	16.91	17.70	1.199	62.9	1.006	0.11	0.385	0.465
	LTE Band 48	20M	QPSK	1	49	-	Left side	5mm	Ant 10	DSI 7	55830	3609	16.91	17.70	1.199	62.9	1.006	0.01	0.051	0.062
	LTE Band 48	20M	QPSK	1	49	-	Top side	5mm	Ant 10	DSI 7	55830	3609	16.91	17.70	1.199	62.9	1.006	-	n/a	n/a
	LTE Band 48	20M	QPSK	1	49	-	Back	5mm	Ant 10	DSI 7	55340	3560	16.80	17.70	1.230	62.9	1.006	-0.08	0.402	0.498
	LTE Band 48C	20M	QPSK	1	0	-	Back	5mm	Ant 10	DSI 7	55340+ 55538	3560+ 3579.8	17.10	17.70	1.148	62.9	1.006	0.06	0.423	0.489
	LTE Band 48_Other PA	20M	QPSK	1	49	-	Back	5mm	Ant 10	DSI 7	55340	3560	16.36	17.70	1.361	62.9	1.006	-0.02	0.345	0.473
	LTE Band 48	20M	QPSK	1	49	-	Back	5mm	Ant 10	DSI 7	56150	3641	16.84	17.70	1.219	62.9	1.006	-0.14	0.313	0.384
	LTE Band 48	20M	QPSK	1	49	-	Back	5mm	Ant 10	DSI 7	56640	3690	16.86	17.70	1.213	62.9	1.006	0.01	0.326	0.398
	LTE Band 48	20M	QPSK	50	0	-	Front	5mm	Ant 10	DSI 7	55830	3609	16.87	17.70	1.211	62.9	1.006	-0.05	0.069	0.084



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	LTE Band 48	20M	QPSK	50	0	-	Back	5mm	Ant 10	DSI 7	55830	3609	16.87	17.70	1.211	62.9	1.006	0.19	0.368	0.448
	LTE Band 48	20M	QPSK	50	0	-	Left side	5mm	Ant 10	DSI 7	55830	3609	16.87	17.70	1.211	62.9	1.006	0	0.049	0.060
	LTE Band 48	20M	QPSK	50	0	-	Top side	5mm	Ant 10	DSI 7	55830	3609	16.87	17.70	1.211	62.9	1.006	-	n/a	n/a
	LTE Band 48	20M	QPSK	1	49	-	Front	5mm	Ant 8	DSI 7	55340	3560	16.43	16.70	1.064	62.9	1.006	0.09	0.127	0.136
	LTE Band 48	20M	QPSK	1	49	-	Back	5mm	Ant 8	DSI 7	55340	3560	16.43	16.70	1.064	62.9	1.006	-0.09	0.355	0.380
	LTE Band 48	20M	QPSK	1	49	-	Right side	5mm	Ant 8	DSI 7	55340	3560	16.43	16.70	1.064	62.9	1.006	-0.01	0.095	0.102
	LTE Band 48	20M	QPSK	1	49	-	Top side	5mm	Ant 8	DSI 7	55340	3560	16.43	16.70	1.064	62.9	1.006	0.18	0.356	0.381
	LTE Band 48	20M	QPSK	1	49	-	Top side	5mm	Ant 8	DSI 7	55830	3609	16.36	16.70	1.081	62.9	1.006	0.11	0.458	0.498
	LTE Band 48	20M	QPSK	1	49	-	Top side	5mm	Ant 8	DSI 7	56150	3641	16.37	16.70	1.079	62.9	1.006	0.01	0.503	0.546
	LTE Band 48	20M	QPSK	1	49	-	Top side	5mm	Ant 8	DSI 7	56640	3690	16.29	16.70	1.099	62.9	1.006	-0.09	0.498	0.551
	LTE Band 48C	20M	QPSK	1	0	-	Top side	5mm	Ant 8	DSI 7	56640+ 56442	3690+ 3670.2	15.73	16.70	1.250	62.9	1.006	0.06	0.433	0.545
	LTE Band 48_Other PA	20M	QPSK	1	49	-	Top side	5mm	Ant 8	DSI 7	56640	3690	15.29	16.70	1.384	62.9	1.006	-0.08	0.382	0.532
	LTE Band 48	20M	QPSK	50	0	-	Front	5mm	Ant 8	DSI 7	55340	3560	16.42	16.70	1.067	62.9	1.006	-0.14	0.121	0.130
	LTE Band 48	20M	QPSK	50	0	-	Back	5mm	Ant 8	DSI 7	55340	3560	16.42	16.70	1.067	62.9	1.006	0.01	0.338	0.363
	LTE Band 48	20M	QPSK	50	0	-	Right side	5mm	Ant 8	DSI 7	55340	3560	16.42	16.70	1.067	62.9	1.006	0.12	0.091	0.098
	LTE Band 48	20M	QPSK	50	0	-	Top side	5mm	Ant 8	DSI 7	55340	3560	16.42	16.70	1.067	62.9	1.006	-0.05	0.340	0.365
	LTE Band 48	20M	QPSK	100	0	-	Top side	5mm	Ant 8	DSI 7	55340	3560	16.39	16.70	1.074	62.9	1.006	-0.14	0.458	0.495
	FR1 n48	40M	QPSK	1	1	DFT-30	Front	5mm	Ant 4	DSI 3	641666	3624.99	12.22	13.00	1.197	-	-	0.18	0.097	0.116
	FR1 n48	40M	QPSK	1	1	DFT-30	Back	5mm	Ant 4	DSI 3	641666	3624.99	12.22	13.00	1.197	-	-	0.11	0.315	0.377
	FR1 n48	40M	QPSK	1	1	DFT-30	Left side	5mm	Ant 4	DSI 7	641666	3624.99	12.22	13.00	1.197	-	-	0.01	0.401	0.480
	FR1 n48	40M	QPSK	1	1	DFT-30	Top side	5mm	Ant 4	DSI 7	641666	3624.99	12.22	13.00	1.197	-	-	-	n/a	n/a
	FR1 n48	40M	QPSK	1	1	DFT-30	Left side	5mm	Ant 4	DSI 7	638000	3570	12.21	13.00	1.199	-	-	-0.08	0.475	0.570
	FR1 n48	40M	QPSK	1	1	DFT-30	Left side	5mm	Ant 4	DSI 7	645332	3679.98	12.18	13.00	1.208	-	-	-0.02	0.436	0.527
	FR1 n48	40M	QPSK	50	28	DFT-30	Front	5mm	Ant 4	DSI 3	641666	3624.99	12.21	13.00	1.199	-	-	0.01	0.093	0.112
	FR1 n48	40M	QPSK	50	28	DFT-30	Back	5mm	Ant 4	DSI 3	641666	3624.99	12.21	13.00	1.199	-	-	0.12	0.301	0.361
	FR1 n48	40M	QPSK	50	28	DFT-30	Left side	5mm	Ant 4	DSI 7	641666	3624.99	12.21	13.00	1.199	-	-	-0.05	0.383	0.459
	FR1 n48	40M	QPSK	50	28	DFT-30	Top side	5mm	Ant 4	DSI 7	641666	3624.99	12.21	13.00	1.199	-	-	-	n/a	n/a
	FR1 n48	40M	QPSK	50	28	DFT-30	Left side	5mm	Ant 4	DSI 7	638000	3570	12.20	13.00	1.202	-	-	0	0.454	0.546
	FR1 n48	40M	QPSK	50	28	DFT-30	Left side	5mm	Ant 4	DSI 7	645332	3679.98	12.19	13.00	1.205	-	-	0.02	0.416	0.501
	FR1 n48	40M	QPSK	1	1	DFT-30	Front	5mm	Ant 7	DSI 7	638000	3570	13.24	14.50	1.337	-	-	-	n/a	n/a
	FR1 n48	40M	QPSK	1	1	DFT-30	Back	5mm	Ant 7	DSI 7	638000	3570	13.24	14.50	1.337	-	-	-0.09	0.413	0.552
	FR1 n48	40M	QPSK	1	1	DFT-30	Left side	5mm	Ant 7	DSI 7	638000	3570	13.24	14.50	1.337	-	-	-	n/a	n/a
	FR1 n48	40M	QPSK	1	1	DFT-30	Right side	5mm	Ant 7	DSI 7	638000	3570	13.24	14.50	1.337	-	-	-	n/a	n/a
	FR1 n48	40M	QPSK	1	1	DFT-30	Top side	5mm	Ant 7	DSI 7	638000	3570	13.24	14.50	1.337	-	-	-0.14	0.095	0.127
	FR1 n48	40M	QPSK	1	1	DFT-30	Back	5mm	Ant 7	DSI 7	641666	3624.99	13.13	14.50	1.371	-	-	0.01	0.405	0.555
61	FR1 n48	40M	QPSK	1	1	DFT-30	Back	5mm	Ant 7	DSI 7	645332	3679.98	13.01	14.50	1.409	-	-	0.12	0.413	0.582
	FR1 n48	40M	QPSK	50	28	DFT-30	Front	5mm	Ant 7	DSI 7	638000	3570	13.22	14.50	1.343	-	-	-	n/a	n/a
	FR1 n48	40M	QPSK	50	28	DFT-30	Back	5mm	Ant 7	DSI 7	638000	3570	13.22	14.50	1.343	-	-	0	0.394	0.529
	FR1 n48	40M	QPSK	50	28	DFT-30	Left side	5mm	Ant 7	DSI 7	638000	3570	13.22	14.50	1.343	-	-	-	n/a	n/a
	FR1 n48	40M	QPSK	50	28	DFT-30	Right side	5mm	Ant 7	DSI 7	638000	3570	13.22	14.50	1.343	-	-	-	n/a	n/a
	FR1 n48	40M	QPSK	50	28	DFT-30	Top side	5mm	Ant 7	DSI 7	638000	3570	13.22	14.50	1.343	-	-	-0.14	0.091	0.122
	FR1 n48	40M	QPSK	1	1	DFT-30	Front	5mm	Ant 10	DSI 7	641666	3624.99	9.67	10.50	1.211	-	-	-	n/a	n/a
	FR1 n48	40M	QPSK	1	1	DFT-30	Back	5mm	Ant 10	DSI 7	641666	3624.99	9.67	10.50	1.211	-	-	-0.04	0.363	0.439
	FR1 n48	40M	QPSK	1	1	DFT-30	Left side	5mm	Ant 10	DSI 7	641666	3624.99	9.67	10.50	1.211	-	-	-	n/a	n/a
	FR1 n48	40M	QPSK	1	1	DFT-30	Top side	5mm	Ant 10	DSI 7	641666	3624.99	9.67	10.50	1.211	-	-	-	n/a	n/a
	FR1 n48	40M	QPSK	1	1	DFT-30	Back	5mm	Ant 10	DSI 7	638000	3570	9.57	10.50	1.239	-	-	-0.01	0.367	0.455
	FR1 n48	40M	QPSK	1	1	DFT-30	Back	5mm	Ant 10	DSI 7	645332	3679.98	9.65	10.50	1.216	-	-	0.18	0.347	0.422
	FR1 n48	40M	QPSK	50	28	DFT-30	Front	5mm	Ant 10	DSI 7	641666	3624.99	9.63	10.50	1.222	-	-	-	n/a	n/a
	FR1 n48	40M	QPSK	50	28	DFT-30	Back	5mm	Ant 10	DSI 7	641666	3624.99	9.63	10.50	1.222	-	-	-0.09	0.347	0.424
	FR1 n48	40M	QPSK	50	28	DFT-30	Left side	5mm	Ant 10	DSI 7	641666	3624.99	9.63	10.50	1.222	-	-	-	n/a	n/a
	FR1 n48	40M	QPSK	50	28	DFT-30	Top side	5mm	Ant 10	DSI 7	641666	3624.99	9.63	10.50	1.222	-	-	-	n/a	n/a
	FR1 n48	40M	QPSK	1	1	DFT-30	Front	5mm	Ant 8	DSI 7	641666	3624.99	13.20	14.50	1.349	-	-	-0.18	0.098	0.132
	FR1 n48	40M	QPSK	1	1	DFT-30	Back	5mm	Ant 8	DSI 7	641666	3624.99	13.20	14.50	1.349	-	-	0.09	0.367	0.495
	FR1 n48	40M	QPSK	1	1	DFT-30	Right side	5mm	Ant 8	DSI 7	641666	3624.99	13.20	14.50	1.349	-	-	-	n/a	n/a
	FR1 n48	40M	QPSK	1	1	DFT-30	Top side	5mm	Ant 8	DSI 7	641666	3624.99	13.20	14.50	1.349	-	-	0.15	0.271	0.366
	FR1 n48	40M	QPSK	1	1	DFT-30	Back	5mm	Ant 8	DSI 7	638000	3570	13.17	14.50	1.358	-	-	-0.08	0.374	0.508



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	FR1 n48	40M	QPSK	1	1	DFT-30	Back	5mm	Ant 8	DSI 7	645332	3679.98	13.05	14.50	1.396	-	-	0.03	0.396	0.553
	FR1 n48	40M	QPSK	50	28	DFT-30	Front	5mm	Ant 8	DSI 7	641666	3624.99	13.18	14.50	1.355	-	-	0.18	0.095	0.129
	FR1 n48	40M	QPSK	50	28	DFT-30	Back	5mm	Ant 8	DSI 7	641666	3624.99	13.18	14.50	1.355	-	-	-0.08	0.350	0.474
	FR1 n48	40M	QPSK	50	28	DFT-30	Right side	5mm	Ant 8	DSI 7	641666	3624.99	13.18	14.50	1.355	-	-	-	n/a	n/a
	FR1 n48	40M	QPSK	50	28	DFT-30	Top side	5mm	Ant 8	DSI 7	641666	3624.99	13.18	14.50	1.355	-	-	-0.04	0.259	0.351
	FR1 n48	40M	QPSK	50	28	DFT-30	Back	5mm	Ant 8	DSI 7	638000	3570	13.16	14.50	1.361	-	-	0.09	0.357	0.486
	FR1 n48	40M	QPSK	50	28	DFT-30	Back	5mm	Ant 8	DSI 7	645332	3679.98	13.02	14.50	1.406	-	-	-0.09	0.378	0.531
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 4	DSI 7	633332	3499.98	14.27	15.00	1.183	-	-	0.14	0.124	0.147
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Back	5mm	Ant 4	DSI 7	633332	3499.98	14.27	15.00	1.183	-	-	-0.18	0.395	0.467
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Left side	5mm	Ant 4	DSI 7	633332	3499.98	14.27	15.00	1.183	-	-	0.09	0.513	0.607
	FR1 n77 HPUE_Other PA	100M	QPSK	1	1	DFT-30	Left side	5mm	Ant 4	DSI 7	633332	3499.98	13.70	15.00	1.349	-	-	-0.1	0.434	0.585
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Top side	5mm	Ant 4	DSI 7	633332	3499.98	14.27	15.00	1.183	-	-	0.15	0.061	0.072
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 4	DSI 7	633332	3499.98	14.25	15.00	1.189	-	-	0.03	0.125	0.149
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 4	DSI 7	633332	3499.98	14.25	15.00	1.189	-	-	0.16	0.390	0.464
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Left side	5mm	Ant 4	DSI 7	633332	3499.98	14.25	15.00	1.189	-	-	0.18	0.505	0.600
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Top side	5mm	Ant 4	DSI 7	633332	3499.98	14.25	15.00	1.189	-	-	-0.08	0.062	0.074
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 4	DSI 7	656000	3840	14.34	15.00	1.164	-	-	-0.09	0.064	0.075
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Back	5mm	Ant 4	DSI 7	656000	3840	14.34	15.00	1.164	-	-	-0.08	0.312	0.363
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Left side	5mm	Ant 4	DSI 7	656000	3840	14.34	15.00	1.164	-	-	-0.02	0.404	0.470
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Top side	5mm	Ant 4	DSI 7	656000	3840	14.34	15.00	1.164	-	-	-0.14	0.044	0.051
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 4	DSI 7	656000	3840	14.33	15.00	1.167	-	-	0.12	0.061	0.071
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 4	DSI 7	656000	3840	14.33	15.00	1.167	-	-	-0.05	0.306	0.357
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Left side	5mm	Ant 4	DSI 7	656000	3840	14.33	15.00	1.167	-	-	0.19	0.386	0.450
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Top side	5mm	Ant 4	DSI 7	656000	3840	14.33	15.00	1.167	-	-	0	0.042	0.049
	FR1 n77 HPUE	100M	QPSK	270	0	DFT-30	Left side	5mm	Ant 4	DSI 7	656000	3840	14.31	15.00	1.172	-	-	0.15	0.355	0.416
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 7	DSI 7	633332	3499.98	14.50	15.50	1.259	-	-	-	n/a	n/a
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Back	5mm	Ant 7	DSI 7	633332	3499.98	14.50	15.50	1.259	-	-	-0.08	0.333	0.419
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Left side	5mm	Ant 7	DSI 7	633332	3499.98	14.50	15.50	1.259	-	-	-	n/a	n/a
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Right side	5mm	Ant 7	DSI 7	633332	3499.98	14.50	15.50	1.259	-	-	-	n/a	n/a
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Top side	5mm	Ant 7	DSI 7	633332	3499.98	14.50	15.50	1.259	-	-	0.09	0.080	0.101
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 7	DSI 7	633332	3499.98	14.48	15.50	1.265	-	-	-	n/a	n/a
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 7	DSI 7	633332	3499.98	14.48	15.50	1.265	-	-	0.18	0.318	0.402
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Left side	5mm	Ant 7	DSI 7	633332	3499.98	14.48	15.50	1.265	-	-	-	n/a	n/a
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Right side	5mm	Ant 7	DSI 7	633332	3499.98	14.48	15.50	1.265	-	-	-	n/a	n/a
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Top side	5mm	Ant 7	DSI 7	633332	3499.98	14.48	15.50	1.265	-	-	-0.09	0.075	0.095
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 7	DSI 7	656000	3840	14.53	15.50	1.250	-	-	-	n/a	n/a
62	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Back	5mm	Ant 7	DSI 7	656000	3840	14.53	15.50	1.250	-	-	0.19	0.489	0.611
	FR1 n77 HPUE_Other PA	100M	QPSK	1	1	DFT-30	Back	5mm	Ant 7	DSI 7	656000	3840	14.76	15.50	1.186	-	-	0	0.447	0.530
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Left side	5mm	Ant 7	DSI 7	656000	3840	14.53	15.50	1.250	-	-	-	n/a	n/a
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Right side	5mm	Ant 7	DSI 7	656000	3840	14.53	15.50	1.250	-	-	0.15	0.123	0.154
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Top side	5mm	Ant 7	DSI 7	656000	3840	14.53	15.50	1.250	-	-	-0.14	0.135	0.169
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 7	DSI 7	656000	3840	14.49	15.50	1.262	-	-	-	n/a	n/a
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 7	DSI 7	656000	3840	14.49	15.50	1.262	-	-	-0.18	0.463	0.584
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Left side	5mm	Ant 7	DSI 7	656000	3840	14.49	15.50	1.262	-	-	-	n/a	n/a
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Right side	5mm	Ant 7	DSI 7	656000	3840	14.49	15.50	1.262	-	-	-0.1	0.118	0.149
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Top side	5mm	Ant 7	DSI 7	656000	3840	14.49	15.50	1.262	-	-	0.15	0.122	0.154
	FR1 n77 HPUE	100M	QPSK	270	0	DFT-30	Back	5mm	Ant 7	DSI 7	656000	3840	14.44	15.50	1.276	-	-	0.03	0.452	0.577
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 10	DSI 7	633332	3499.98	10.70	11.50	1.202	-	-	-	n/a	n/a
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Back	5mm	Ant 10	DSI 7	633332	3499.98	10.70	11.50	1.202	-	-	0.11	0.389	0.468
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Left side	5mm	Ant 10	DSI 7	633332	3499.98	10.70	11.50	1.202	-	-	-	n/a	n/a
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Top side	5mm	Ant 10	DSI 7	633332	3499.98	10.70	11.50	1.202	-	-	-	n/a	n/a
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 10	DSI 7	633332	3499.98	10.69	11.50	1.205	-	-	-	n/a	n/a
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 10	DSI 7	633332	3499.98	10.69	11.50	1.205	-	-	-0.14	0.381	0.459
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Left side	5mm	Ant 10	DSI 7	633332	3499.98	10.69	11.50	1.205	-	-	-	n/a	n/a
	FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Top side	5mm	Ant 10	DSI 7	633332	3499.98	10.69	11.50	1.205	-	-	-	n/a	n/a
	FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 10	DSI 7	656000	3840	10.35	11.50	1.303	-	-	-	n/a	n/a



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FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Back	5mm	Ant 10	DSI 7	656000	3840	10.35	11.50	1.303	-	-	-0.08	0.377	0.491
FR1 n77 HPUE_Other PA	100M	QPSK	1	1	DFT-30	Back	5mm	Ant 10	DSI 7	656000	3840	9.89	11.50	1.449	-	-	0.14	0.319	0.462
FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Left side	5mm	Ant 10	DSI 7	656000	3840	10.35	11.50	1.303	-	-	-	n/a	n/a
FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Top side	5mm	Ant 10	DSI 7	656000	3840	10.35	11.50	1.303	-	-	0.09	0.039	0.051
FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 10	DSI 7	656000	3840	10.33	11.50	1.309	-	-	-	n/a	n/a
FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 10	DSI 7	656000	3840	10.33	11.50	1.309	-	-	-0.08	0.360	0.471
FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Left side	5mm	Ant 10	DSI 7	656000	3840	10.33	11.50	1.309	-	-	-	n/a	n/a
FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Top side	5mm	Ant 10	DSI 7	656000	3840	10.33	11.50	1.309	-	-	0.16	0.037	0.048
FR1 n77 HPUE	100M	QPSK	270	0	DFT-30	Back	5mm	Ant 10	DSI 3	656000	3840	10.30	11.50	1.318	-	-	0.11	0.343	0.452
FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 8	DSI 7	633332	3499.98	12.47	13.50	1.268	-	-	0.11	0.051	0.065
FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Back	5mm	Ant 8	DSI 7	633332	3499.98	12.47	13.50	1.268	-	-	0.01	0.178	0.226
FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Right side	5mm	Ant 8	DSI 7	633332	3499.98	12.47	13.50	1.268	-	-	-	n/a	n/a
FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Top side	5mm	Ant 8	DSI 7	633332	3499.98	12.47	13.50	1.268	-	-	-0.08	0.096	0.122
FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 8	DSI 7	633332	3499.98	12.45	13.50	1.274	-	-	-0.14	0.049	0.062
FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 8	DSI 7	633332	3499.98	12.45	13.50	1.274	-	-	0.01	0.170	0.216
FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Right side	5mm	Ant 8	DSI 7	633332	3499.98	12.45	13.50	1.274	-	-	0.12	0.051	0.065
FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Top side	5mm	Ant 8	DSI 7	633332	3499.98	12.45	13.50	1.274	-	-	-0.05	0.139	0.177
FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Front	5mm	Ant 8	DSI 7	656000	3840	11.96	13.50	1.426	-	-	-0.18	0.055	0.078
FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Back	5mm	Ant 8	DSI 7	656000	3840	11.96	13.50	1.426	-	-	0.09	0.405	0.577
FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Back	5mm	Ant 8	DSI 7	656000	3840	12.32	13.50	1.312	-	-	-0.1	0.434	0.569
FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Right side	5mm	Ant 8	DSI 7	656000	3840	11.96	13.50	1.426	-	-	0.15	0.026	0.037
FR1 n77 HPUE	100M	QPSK	1	1	DFT-30	Top side	5mm	Ant 8	DSI 7	656000	3840	11.96	13.50	1.426	-	-	-0.08	0.291	0.415
FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 8	DSI 7	656000	3840	11.94	13.50	1.432	-	-	0.16	0.050	0.072
FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 8	DSI 7	656000	3840	11.94	13.50	1.432	-	-	0.18	0.387	0.554
FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Right side	5mm	Ant 8	DSI 7	656000	3840	11.94	13.50	1.432	-	-	-0.08	0.022	0.032
FR1 n77 HPUE	100M	QPSK	135	69	DFT-30	Top side	5mm	Ant 8	DSI 7	656000	3840	11.94	13.50	1.432	-	-	-0.09	0.278	0.398



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
2450MHz																
	Bluetooth	DH5 1Mbps	Front	5mm	Ant 3	level9	39	2441	11.90	12.50	1.148	77.17	1.296	0.01	0.076	0.113
	Bluetooth	DH5 1Mbps	Back	5mm	Ant 3	level9	39	2441	11.90	12.50	1.148	77.17	1.296	-0.09	0.078	0.116
	Bluetooth	DH5 1Mbps	Right side	5mm	Ant 3	level9	39	2441	11.90	12.50	1.148	77.17	1.296	-0.08	0.076	0.113
	Bluetooth	DH5 1Mbps	Top side	5mm	Ant 3	level9	39	2441	11.90	12.50	1.148	77.17	1.296	-0.02	0.069	0.103
	Bluetooth	DH5 1Mbps	Back	5mm	Ant 3	level9	0	2402	11.30	12.50	1.318	77.17	1.296	-0.14	0.112	0.191
	Bluetooth	DH5 1Mbps	Back	5mm	Ant 3	level9	78	2480	9.50	11.00	1.413	77.17	1.296	0.01	0.058	0.106
	Bluetooth	DH5 1Mbps	Front	5mm	Ant 5	level9	39	2441	14.00	14.50	1.122	76.78	1.302	-0.05	0.087	0.127
64	Bluetooth	DH5 1Mbps	Back	5mm	Ant 5	level9	39	2441	14.00	14.50	1.122	76.78	1.302	0.19	0.202	0.295
	Bluetooth	DH5 1Mbps	Right side	5mm	Ant 5	level9	39	2441	14.00	14.50	1.122	76.78	1.302	0	0.181	0.264
	Bluetooth	DH5 1Mbps	Top side	5mm	Ant 5	level9	39	2441	14.00	14.50	1.122	76.78	1.302	0.02	0.021	0.031
	Bluetooth	DH5 1Mbps	Back	5mm	Ant 5	level9	0	2402	13.00	14.50	1.413	76.78	1.302	0.15	0.155	0.285
	Bluetooth	DH5 1Mbps	Back	5mm	Ant 5	level9	78	2480	11.80	13.00	1.318	76.78	1.302	-0.14	0.111	0.191
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 3+5(5)	Standalone	6	2437	15.30	17.00	1.479	100	1.000	0.14	0.263	0.389
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 3+5(5)	Standalone	6	2437	15.30	17.00	1.479	100	1.000	-0.18	0.443	0.655
	WLAN2.4GHz	802.11b 1Mbps	Right side	5mm	Ant 3+5(5)	Standalone	6	2437	15.30	17.00	1.479	100	1.000	0.09	0.505	0.747
	WLAN2.4GHz	802.11b 1Mbps	Top side	5mm	Ant 3+5(5)	Standalone	6	2437	15.30	17.00	1.479	100	1.000	-0.1	0.119	0.176
65	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 3+5(5)	Standalone	1	2412	15.20	17.00	1.514	100	1.000	0.15	0.561	0.849
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 3+5(5)	Standalone	11	2462	15.10	17.00	1.549	100	1.000	-0.08	0.445	0.689
	WLAN2.4GHz	802.11b 1Mbps	Right side	5mm	Ant 3+5(5)	Standalone	1	2412	15.20	17.00	1.514	100	1.000	0.03	0.532	0.805
	WLAN2.4GHz	802.11b 1Mbps	Right side	5mm	Ant 3+5(5)	Standalone	11	2462	15.10	17.00	1.549	100	1.000	0.16	0.536	0.830
5000MHz																
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 7+5(5)	Standalone	42	5210	11.12	13.00	1.542	100	1.000	-	n/a	n/a
66	WLAN5.2GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 7+5(5)	Standalone	42	5210	11.12	13.00	1.542	100	1.000	0.12	0.400	0.617
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Right side	5mm	Ant 7+5(5)	Standalone	42	5210	11.12	13.00	1.542	100	1.000	-0.05	0.110	0.170
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Top side	5mm	Ant 7+5(5)	Standalone	42	5210	11.12	13.00	1.542	100	1.000	0.19	0.137	0.211
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 7+5(5)	Standalone	155	5775	10.21	12.00	1.510	100	1.000	0.02	0.100	0.151
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 7+5(5)	Standalone	155	5775	10.21	12.00	1.510	100	1.000	0.15	0.409	0.618
67	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right side	5mm	Ant 7+5(5)	Standalone	155	5775	10.21	12.00	1.510	100	1.000	-0.14	0.450	0.680
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Top side	5mm	Ant 7+5(5)	Standalone	155	5775	10.21	12.00	1.510	100	1.000	-0.08	0.140	0.211